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An American Perspective on Europe's Constitutional Opportunity

James M. Buchanan

Lessons of the American Experience for Europe[1]

Europe now finds itself historically positioned in a setting analogous to that of the United States in 1787. In 1787, the citizens of the separate states in the American confederation shared the common experience of successful conflict with a colonial ruling government and, also, the failed effort at economic integration by the independent sovereign polities. To James Madison and his compatriots at Philadelphia, the confederation among the separate states was not enough, and the future prospect was one of continuing interstate economic conflict, described by economic autarky in a setting of increasing vulnerability of the separated states to external enemies. What was needed was a *constitution*, a set of rules that would restrict the sovereign authority of the states over citizens, and, at the same time, would establish a *central government* that would also command, directly, the loyalties of citizens.

Madison's grand design for American federalism succeeded in its objective of creating and maintaining an open economy over the whole territory of the several states. The American economy, the effective extent of the market, came to be coextensive with the external boundaries of the central government. Freedom of trade in goods, freedom of migration of persons, freedom of movement for capital, a

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The author is a Nobel Laureate in Economic Sciences and the Advisory General Director of the Center for Study of Public Choice, and the Harris University Professor, at George Mason University. He first presented this paper at the Mont Pelerin Society General Meeting in Munich, September 1990. Longer versions of the paper have been published by Euro 92 (Buchanan 1990a) and by the Institute of Economic Affairs (Buchanan 1990b).

[1]For a paper that treats the subject matter of this section at length, see Aranson (1990).

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common monetary unit—these characteristics insured that the division of labor would be exploited to an internal maximum. And America, predictably, became rich.

But Madison's grand design for federalism failed in its less recognized but ultimately much more important objective, that of limiting the range and scope of political authority over the liberties of citizens. In 1787, concern was centered on the potential abuses of authority by the separated states; the anti-Federalists were unsuccessful in raising effective concerns about the potential authority of the central or federal government. After all, citizens of the states were creating a new government, the delegated powers of which were to be severely circumscribed. And, further, even as the new government exercised these delegated powers, Montesquieu's separational scheme was expected to provide further checks on overextension. Madison's philosophy of federalism did not allow him even to dream of a federal Leviathan.

To the Founders in 1787, the fact that the citizens of the separate states were involved in creating a central government that would itself commence to share sovereignty with these creating states more or less carried with it the ultimate right of citizens in the separate units to secede from the federal union so established. And, indeed, should the question of secession have been raised at all in the initial debates on the formation of the union, representatives of all the states would have dismissed it since the answer was, to them, self-evident. Without an implicit acceptance of an ultimate right to secede, to opt out, to exercise the exit option, the constitutional agreement hammered out in Philadelphia in the hot summer of 1787 would never have come into being at all.

If the advantages of economic union are so great, why should secession ever come to be in the interests of citizens of particular states in the federal system? The potentiality of a viable secessionist threat could emerge only if the central government, through its internal decision structure, should take action that differentially damages citizens of the separate states or regions within its territory. Should the central authority remain within the limits of actions defined by the "general interest" of all its citizens, an effective argument for secession could never emerge from considerations of economic interest. This relationship may be stated obversely: the threat of secession offers a means of insuring that the central government will, indeed, stay within those boundaries of political action defined by the general interests of all citizens in the inclusive territory.

We may ask the hypothetical question: if the American constitutional agreement of 1787 had included an effective guarantee that

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the economy remain open, *externally* as well as internally, would the secession option have become viable to the coalition of Southern states in 1860? We can agree on the direction of effect. Secession from the federal union would have seemed less desirable to Southerners than, in fact, was the case in the presence of central government restriction on external trade.

I do not neglect the critical importance of the institution of slavery for American constitutional history. The immorality of slavery provided the impetus for the formation and maintenance of regional coalitions, conflict among which generated differentially damaging federal government trade restrictions and created the potential for Southern secession, both of which may well have been counter to the strict economic interests of the supporting citizenry. I emphasize only that this discussion is not an exercise in American history but is, instead, an interpretation of some of that history that seems relevant to the present European position.

In this context, Lincoln's decision to fight to preserve union can be viewed as a breaking of the implicit contract that had established the federal structure. The ultimate victory insured that secession was no longer a viable option for citizens of the separate states, individually or in coalition. In the absence of the threat of the exercise of the exit option, there then existed no effective limit to the expansion of the powers of the central government beyond those embodied in the formalized structure of constitutional rules. It was perhaps inevitable that, sooner or later, these formal limits would be violated, although we may speculate on whether or not the Madisonian structure might have survived in a time when there existed no generalized mind-set like that which described the socialist century. In any case, the history has been written. It is mockery to use "federalism" or "federal union" to describe present-day America, which is, of course, simply a very large nation-state.

The lessons of the American experience for Europe are clear. The citizens of the separated nation-states face an opportunity to enter into a federal union that can be an instrument for achieving the enormous gains of economic integration. In this respect, the parallel with the America of 1787 is direct. In the process of establishing an effective federal union, a central political authority must come into being with some sovereignty over citizens in all of the nation-states. But the ultimate powers of this central union must be reckoned with, and checks must be included in the constitutional contract that defines the federal structure. The formal rules of such a contract will not, however, be sufficient, as the American experience so well demonstrates. There must also be some explicit acknowledgement,

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in the contract of establishment, of the rights of citizens in the separate units to secede from union, upon agreement of some designated supra-majority within the seceding jurisdiction.

As the American experience suggests, the advantages of union should be such that secession should never become a meaningful alternative for the citizenry of any unit or set of units. This result emerges, however, only if the central political authority is constitutionally prohibited from enacting policy measures that are unduly discriminatory in their impacts on the separate units. Recognition of this potentiality suggests, in turn, that the initial contract should provide guarantees of freedom for both internal and external trade, that is, for trade among all citizens and firms within the inclusive territory of union *and* for trade among citizens-firms within the territory of union and all parties outside these limits in so far as internal policy makes this possible.

Public Philosophy for Effective Federal Union

If Europe is to seize its opportunity to constitute a genuine federal union, its citizens must arrive at a philosophical understanding of the relationships among themselves, as individuals, and the collectivities in which they participate as members, both those defined as the historically familiar nation-states and the emergent inclusive Europe, a philosophical understanding that is quite different from that which described the public philosophy of the Hegelian-influenced socialist century.

For well over a century, political entrepreneurs found it profitable to exploit the ideological precept that the individual comes to the full realization of human potentiality only as a sharing participant in a collective, the aims for which are objectively determinate, whether by the working of the laws of history or by the light of scientific reason. That which was "good" for the individual was defined externally to any internal calculus of personal interest or reason. From this precept followed two direct consequences. First, the range and scope for the exercise of individual autonomy through free and voluntary contractual interaction independent of collectivized control was progressively narrowed. Second, decision making procedures for the collective were evaluated in terms of their efficacy in identifying the objectively existent "goodness" or "truth" for all participants. In this setting, it is evident that an informed elite may, even if it need not, be superior in its judgment to any majority coalition of the total electorate.

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I have deliberately generalized the capsule description of the prevalent public philosophy of the "Hegelian epoch" to include both Marxian and non-Marxian variants of socialism-cum-collectivism. Central to both was the precept that autonomously derived or originated individual values are superseded by the objectively defined ideal that is potentially attainable only by the collective. The public philosophy of the long socialist century was marked by a dramatic loss of the 18th-century faith in the cooperative-contractual potential released by individual autonomy and by an accompanying acceptance of faith in the working of collective agency. The naive romanticism of 19th- and 20th-century socialism may be difficult for some historians of the 1990s to understand. But the history of ideas is marked by an epoch during which politics, defined as the total working of collectivities, was assumed to be characterized by both benevolence and omniscience.

The presupposed superiority of collective to individual choice and action necessarily required that there exist some well-defined collective unit. Socialist direction and control of the use of resources could be implemented only through a collective unit that could meaningfully define the effective boundaries of "the economy." And it was perhaps historical accident that caused attention to be focused, practically, on the emerging nation-states, and particularly as nationalistic sentiments arose to complement the collectivist attitudinal thrust.

The nation-state, through its political agents, was successful in placing individual citizens in dependency status, to varying degrees. This loss of independence was necessarily accompanied by the emergence of an artificial loyalty to the collective, which granted any and all access to economic value. However, the dependency-induced loyalties to collective agencies were, from the start, artificial. Public attitudes toward collectivist experiments had never matched the romanticized models described by the intellectuals and academicians, as promulgated and elaborated by interest-driven political entrepreneurs. Over the long term, a viable public philosophy for collectivism required a demonstration of tolerably successful performance along with an observation of a tolerably efficient bureaucracy. As we know, neither of these conditions was met, and the second half of the 20th century witnessed an erosion in citizen support, both for highly centralized collectivized regimes and for politicized overreaching in those nation-states that continued to allow considerable scope for individual autonomy.

The failures of the experiments in "democratic socialism" in the 1950s, the Khrushchev revelations of Stalinist terror, the flawed

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welfare-state extensions of the 1960s, the inadequacies of Keynesian macromanagement in the 1970s, the woeful performance of collectivized economies in meeting minimal citizens' demands—these events compounded to generate the genuine revolutions of the late 1980s, revolutions that surprised even those who had never been deluded by the Hegelian mythology.

The public philosophy of collectivism now belongs to a historical epoch that is past. Political entrepreneurs can no longer exploit the Hegelian sublimation of the individual to a collective *zeitgeist* or the Marxian dialectic of class conflict. Citizens, in both Western and Eastern nation-states, are skeptical of politicized, collectivized nostrums for alleged societal ills. Political entrepreneurs move now to exploit the rediscovered precepts of liberty and autonomy. Although displaced by two centuries from its origins, the public philosophy that can make European federal union a reality seems well on the way to being in place, giving credence to my claim that Europe does, indeed, have its once-in-history opportunity.

Politicization, Profits, and Rules for a Competitive Constitutional Game

I have suggested that the public philosophy required for European federal union must embody considerable skepticism about the efficacy of collective arrangements to produce economic value, and notably as authority is lodged in nation-states. A socialist ideology could never countenance the genuine diminution of sovereignty that nation-states must experience, a diminution reflected in some transference to a supra-national central unit, to "Europe," and the more important transference to the free play of competitive forces operating across and beyond national boundaries. I have suggested that such a required shift in public philosophy is well on the way to becoming a reality of the 1990s.

The implementation of this public philosophy in the effective establishment of a federal union faces the formidable task of superseding the institutional history. Much more is required here than the shift in ideas. Full recovery of the 18th-century mind-set concerning the proclivity and prospects for politics and politicians to "do good" would not suffice to erase two centuries of experience, during which persons came to seek out private profits or rents through manipulation of the political-governmental-bureaucratic structure, and, in the process, learned tools of a trade unheard of in earlier times. For well over a century, and throughout the world, private profits have been

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made at public (citizens') expense. We should hardly expect the rent-seekers to be deterred by any shift in the ideological currents.

As I have stated in a summary title for a different lecture, "Socialism is dead, but Leviathan lives on." The attempts by well-organized interest or pressure groups to use political means to secure differential gains at the expense of the general polity-economy will not disappear in the post-socialist epoch. Public skepticism of politics and politicians has not been accompanied by a reacquisition of faith in laissez faire, in the efficacy of markets when left alone within a framework of law.

We seem to have come full circle to the setting confronted by Adam Smith in 1776, when he felt it necessary to demonstrate the fallacies in the arguments that wealth is enhanced by particularized political intervention into the workings of markets. But, for citizens of Europe, there is a difference worthy of notice.

The "European difference" here lies, of course, in the juxtaposition of the historically familiar exercises of rent-seeking pressures *within* nation-states and the prospect for a constitution of federal union that will insure *competition* among producers and consumers of goods and resources across the territory that encompasses the several nation-states. This juxtaposition makes possible the achievement of economic integration, and the promise of substantial wealth enhancement, without any necessity of direct political confrontation with those groups *inside* the separate national units that seek to remain inside the protection of mercantilist restriction. The independent efforts of interest groups, as they operate on and through the political processes within separate national economies, need not be explicitly prohibited by the constitution of the federal union. Nor need the responses of majority legislative coalitions to such efforts be expressly limited. So long as individuals are protected by the constitution of the federal union in their liberties to purchase and to sell both producers' and consumers' goods freely throughout the territory of the union, particularized interferences with internal economic relationships within any single national unit will be policed with reasonable effectiveness by the forces of cross-national competition. Politically orchestrated regulatory activity will tend to be restricted to that which increases overall efficiency.

The "European difference" at this stage of history also remains important in that it facilitates a relatively painless transition for the institutionally relevant public bureaucracy. Existing agencies of nationally separate bureaucratic authority can be kept in place without nominal removal of their specific function to regulate specific sectors. There need be no overt shift of bureaucratic oversight

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authority from Bonn, London, Paris, or Rome to Brussels. The separate national bureaucracies can continue to exist and to operate, but their genuine authority to exploit the citizenry will be forestalled, again by the competitive forces imposed by the constitutional guarantees of open markets across the federal system.

European Federalism, German Unity, and the Opening of Eastern Europe

To this point, the momentous events of 1989 have not entered directly into my discussion and no change in the argument would have been dictated had 1989 simply not happened. But the revolutions in Eastern Europe did take place in 1989, and any treatment of a prospective European federal union must, at a minimum, attempt to assess the influence of these changes. I shall examine separately the effects of two related issues, as these may bear on prospects for Europe's seizure of its once-in-history opportunity. I shall, first, discuss briefly questions of German reunification. I shall then discuss, more generally, the predicted effects of the opening of Eastern European economies to increased economic interaction with Western Europe and other parts of the world.

In a Europe historically described by the existence of autonomous, *fully sovereign* nation-states, whether or not these units are observed to cooperate in economic, environmental, political, social, and military matters, the lesson of history is surely one that prompts concern about the potential imbalance that might be created by a straightforward merger of the two Germanys. Self-determination, as an extension of the liberal principle of voluntary agreement among the parties directly involved, is acceptable only to the extent that significant spillover effects on other parties are absent. But it is important to recognize that the potential harms that a unified Germany could impose on other Europeans emerge largely, if not totally, from the maintenance of the Hegelian mind-set that presumes nation-states to exert full and undivided sovereignty over resident citizens.

The federalized alternative, in which sovereignty is genuinely shared, did not enter into the political consciousness in the socialist-collectivist century, a consciousness that accepted the necessity of a monolithic, centralized control over economic and social relationships. In the post-socialist mind-set that seems ready to emerge, in Europe as elsewhere, federal union for Europe becomes a real prospect. And with a genuine federal structure of governance, the bases for the fears of a dominant Germany are substantially reduced. If the constitution for Europe that establishes the federal union effec-

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tively insures that any national unit, be it large or small, must remain open to the competitive forces that operate over all the inclusive territory of the union, why should, say, the citizen of Portugal be concerned much about the size of his nation-state relative to that of Germany?

It should be recognized, however, that the generalized German thrust for reunification stems, in part, from the collectivist mindset imposed by the Hegelian mythology. In the public philosophy attuned to the realities of European federal union, the political dimension of the nation-state matters relatively little. If the nation-state, as organized, is to possess much less authority than that assumed by the collectivist-socialist model, there need be, on the one hand, less fear of dominance by large units, and, on the other hand, less demand for inclusion in the large units by those peoples historically associated territorially, culturally, or linguistically.

The opening of Eastern Europe to increased marketlike relationships with other parts of the world, and notably with Western Europe, enhances the prospect that a European federal union, as established, will itself remain more open to trade with citizens of nonmember states than might otherwise have been the case. A closed European union, post-1992, which has been predicted by some critics, seems less likely to be realized, subsequent to the revolutionary events of 1989.

As noted earlier, there is a persuasive argument in support of constitutional guarantees for free trade both internally and externally, that is, both among the nation-states of the federal union and between the union and other countries of the world. The internal free-trade area may be sufficiently large to capture most if not all of the scale advantages of an extended market. But freedom for external trade serves the equally important function of insuring that internal political coalitions among majorities of the separate member nation-states will not successfully exploit minorities, and especially as concentrated in particular member units. A federal union made up of Western European member states that would have confronted a closed Eastern Europe, as seemed to be the prospect prior to 1989, might have succumbed to the protectionist temptations to discriminate against trade with America and the Pacific. But, post-1989, with Eastern European prospects for trade in goods, migration of labor, and outlets for investment open, the internal political incentives should have shifted substantially in favor of leaving the European market open externally. Citizens of Western Europe, when considering themselves as participants in the grand design for effective federalism, do not seem likely to support the formation of a closed trading

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area that would, itself, provide incentives for Eastern European economic and political isolation, especially when there may exist prospects for including new members of the federal union drawn from the nation-states of Eastern Europe.

Will an Effective European Federal Union Become Reality?

I have predicted that citizens of the several nation-states of Western Europe, acting through their existing political agents and processes, will take advantage of the constitutional opportunity that this moment in history offers to them. A European federal union will be established in the 1990s with constitutional guarantees that will prevent any emergence of a monolithic "Europe," as a central political unit, that will take on control and regulatory functions characteristic of the socialist-collectivist regimes during the historical epoch that is ending. Existing national units will not be reduced to the status of provincial administrative districts or to subordinate positions resembling those occupied by the American states in post-Lincoln United States.

Those who have predicted that, upon any movement toward federal union, the central state, "Europe," must assume critical dominance, and that Brussels, or the Brussels bureaucracy, will reduce national political agencies to submission are, I think, wrong. I base my contrary prediction on the particular convergence of ideas and events at the end of this century. As noted, the romanticized myth of the benevolent and omniscient state came to influence public perception of politics in application to the existence of the separately sovereign nation-states of modern Europe. The romantic myth has been substantially displaced in the public consciousness of the 1990s, and there are no longer philosophers around who promote its revival. Nowhere in the world, East or West, do we find, in the 1990s, the naive faith in collectivist nostrums that characterized both intellectual and public attitudes for most of the 19th and 20th centuries.

A central European state that would come to share sovereignty with the separate national member units in a federal system could not, therefore, be expected to capture and to command loyalties even remotely akin to those exploited so tragically by the nation-states of the last two centuries. The central polity of Europe, in a federal structure, would be required to emerge, grow, and survive in an attitudinal climate that embodies generalized skepticism about both the motives of political agents and the workings of political institu-

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tions, at all levels. An additional difficulty that would be faced by a central European state in seeking to take on powers reserved to member polities in a constitutional federal union lies in the continued residues of sentiment defined by shared historical experience, by cultural, linguistic, and ethnic homogeneity. Citizens of a European federation will, indeed, come to think of themselves as "Europeans," but they will scarcely stop thinking of themselves as British, French, German, or Italian. Brussels, as the capital city of the federation, would be expected to be more like Bern, in the Swiss confederation, than like Paris, in post-Napoleonic France.

My prediction may, of course, be proven wrong. If the proponents of federal union have not, themselves, fully escaped residual socialist failures to understand the efficiency-generating forces of competition, both in markets for goods and among separately existing units in a federal system, they may advance nightmare versions of a regulatory "Brusselsization" that would prove totally unacceptable to those who are reluctant to surrender any shares in national sovereignty. And the power of the incentives offered to prospective rent-seekers by any prospective establishment of a Europeanized bureaucracy should never be underestimated. Excessive Europe-wide regulations, controls, fiscal harmonization, and fiat-issue monopoly would destroy much of the gain that economic integration might promise.

The task of designing, in detail, the *constitution* for an effective federal union for Europe is formidable, and this task has scarcely been commenced. But I emphasize again that the opportunity is in place; the time is ripe. Europe waits for its own James Madison, who understands the constitutional economics of competition, and who, at the same time, appreciates the nuances of persuasive argument, bargaining, and compromise required to generate agreement among apparently divergent interests.

Europeans, generally, must be convinced that establishment of a constitutionally defined federal union is a positive-sum movement for all parties. Finally, to end this paper where it started, Europeans generally, including the James Madison of the 1990s, must recognize the propitiousness of this moment in the world's history.

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Perestroika and Ruble Convertibility

Edgar L. Feige

Introduction

Perestroika and ruble convertibility are intimately connected. Successful restructuring of microeconomic allocation mechanisms and the attainment of monetary and fiscal stability are necessary preconditions for reaping rewards from trade liberalization. Conversely, ruble convertibility can contribute to the efficacy of structural reforms. Convertibility exerts competitive pressures on domestic producers to improve efficiency; promotes gains from trade through the exercise of comparative advantage; and provides access to foreign imports, capital, and technology.

This promising synergism is, however, also fraught with danger. If perestroika fails to establish effective market allocation mechanisms and fiscal and monetary balance, ruble convertibility could aggravate wasteful resource use, swell imports, encourage capital flight, and fuel inflation. In short, ruble convertibility is a two-edged sword that should not be approached casually. Under appropriate conditions, it can cut through inefficiencies and yield productive results. In the absence of these conditions it can deepen pre-existing wounds, causing further hemorrhage to the economic system.

Recent theoretical work on the dynamics of structural reform suggests that when trade is liberalized under conditions of severe micro- and macroeconomic imbalance, it is unlikely to achieve its salutary objectives and may actually exacerbate instability (Choski and Papageorgiou 1986).[1] The Soviet Union now suffers from severe systemic

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The author is Professor of Economics at the University of Wisconsin–Madison.

[1]Edwards (1989) contains a critical review and evaluation of this literature. Although much of the literature on stabilization dynamics deals with the experience of Southern Cone countries, the evidence is salient for the Soviet Union because of the existence of micro- and macroeconomic imbalances. Wolf (1990) contains a brief review of the experience of centrally planned economies undertaking market-oriented reforms.

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imbalances (Ericson 1989). Recent empirical evidence on failed trade liberalization programs supports the view that macroeconomic stability is among the most important factors influencing the outcome of trade reform.[2]

Since the potential costs and benefits of ruble convertibility are conditioned by the environment in which convertibility proceeds, any practical proposal for convertibility must first address and answer a broader and deeper issue, namely: what is the appropriate nature, sequence, and timing of the structural reforms required to create a suitable and sustainable environment for successful trade liberation?[3]

The interdependence between ruble convertibility and perestroika suggests that the design, implementation, and predicted consequences of any ruble convertibility scheme must be informed and guided by (1) a coherent vision of the nature and ultimate destination of perestroika, (2) a road map of transitional structural reforms whose sequence and timing are designed to maximize the likelihood of stable progression toward the ultimate destination, and (3) the potential costs and benefits of alternative types and sequences of ruble convertibility reform.

In order to create the optimal macroeconomic conditions for successful ruble convertibility, while avoiding distributional inequities, the Soviet Union will need to undertake a radical program of structural economic reforms including a major redistribution of state assets to Soviet citizens. The requisite microeconomic environment for trade liberalization calls for the elimination of monopoly power and the liberation of the price mechanism to perform its information and incentive signaling role (Hewett 1988). This is best accomplished speedily, in a "constrained big bang" reform. Domestic ruble convertibility requires the elimination of all exchange restrictions that now cripple the domestic two-circuit (currency-credit) payments system by extending the right of private property to all citizens. Their ability to freely exchange rubles for domestic real and financial assets promotes macroeconomic stability, microeconomic efficiency, and lends credibility to the reform process. Once the foregoing reforms are securely in place, it is safe to proceed with foreign ruble convertibility, first on current account, then on capital account.[4]

[2]Choksi and Papageorgiou (1986), Corbo and de Melo (1987), Edwards (1989).

[3]Feige (1990b) contains a more detailed description of the proposed set of broader reforms that are believed necessary to achieve propitious conditions for ruble convertibility to succeed.

[4]Krueger (1981, 1984) has suggested that the availability of foreign funds can reduce the adjustment costs that arise during major structural reforms. In the Soviet case, even if such funds were available, it is doubtful that they would be put to productive use

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Domestic and Foreign Ruble Convertibility

In the context of Soviet institutions it is necessary to draw attention to the distinction between *domestic* and *foreign* ruble convertibility. Full domestic ruble convertibility is established when all economic agents have the unrestricted ability to exchange rubles (currency) into other domestic means of payment (non-cash bank credits) and into domestic goods, services, real assets, and financial assets. Analogously, full foreign ruble convertibility is established when all economic agents have the unrestricted ability to exchange rubles into foreign goods (current account) and foreign capital and currency (capital account).

Convertibility can also be partial, with the degree of convertibility depending on the nature and extent of the restrictions placed on exchange. Restrictions can apply to transactors or to particular types of transactions.[5] When the restrictions apply to transactors, they often take the form of limitations on private property rights. The extension of property rights is therefore analogous to liberalization of convertibility.

Money in Market Economies

In market-oriented economies, money serves three vital functions simultaneously. It is a unit of account, a store of value, and most important, a medium of exchange that facilitates trade in free markets. Although money has little or no intrinsic value, it is widely accepted in exchange because of public confidence in the legal institutions that sanction and enforce contracts and property rights and in the central banking institution charged with the responsibility of maintaining macroeconomic stability. Exchange between final means of payment (currency and checkable deposits) is unrestricted. Individuals, firms, and government agencies are free to use money to purchase domestic and foreign goods, services, capital, and financial assets. Money represents generalized purchasing power and is the lubricant of trade. Its unrestricted exchange promotes division of labor and specialization, thereby promoting efficient production and low-cost

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until *after* market-determined prices provided sufficient incentives to efficiently utilize existing unused capacity (see Shmelev and Popov 1989, pp. 142–44). McKinnon (1973, 1989) has argued that restrictions on capital accounts should only be relaxed after microeconomic distortions have been eliminated, fearing that real exchange rate appreciation would deprotect the tradables sector. This insight is particularly germane to the Soviet Union whose potential tradables are well below world standards in quality (see Shmelev and Popov 1989, chap. 7).

[5]Partial convertibility can also involve multiple exchange rate structures like those in the Soviet Union.

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distribution. Restrictions on the monetary mechanism are largely limited to macroeconomic control of the aggregate money supply. Appropriate limits on the rate of monetary expansion maintain the exchange value of money by minimizing its depreciation through inflation.

Money in the Soviet Union

The inconvertible ruble's monetary functions are very different. The Soviet Union's two-circuit payment system consists of cash and non-cash rubles. Cash rubles (currency) cannot be exchanged for non-cash rubles (bank credits) and neither can be freely exchanged for foreign goods, assets, or currencies. Individuals cannot use rubles to freely purchase real or financial domestic assets,[6] essentially because of the limitations to private property ownership. Enterprises are restricted to using currency to purchase labor services and often find their excess non-cash credits confiscated through taxes to subsidize less efficient enterprises. In short, the ruble as a monetary unit is highly restricted in its domestic and foreign exchange functions with asymmetric constraints on economic agents and types of transactions.

The stark contrast between the unrestricted acceptance and exchangeability of money in Western nations and the domestic and foreign constraints on monetary exchange in the Soviet Union is largely due to the different functions that money is designed to serve in market-oriented as distinct from centrally planned economies. In the Soviet Union, money has functioned as a policy instrument to facilitate the micro- and macroeconomic objectives of central planning. It is the very restrictions placed on domestic conversions, between different forms of money and between money and domestic goods, services, and assets, that enables planners to accomplish material balances, production quotas, and planned allocations of factors and products.

The Soviet Union has chosen for decades to maintain both domestic and foreign inconvertibility. Given the system of state ownership of resources and centrally planned administration, inconvertibility served a state purpose. It enabled planners to maintain Soviet self-sufficiency by treating foreign trade as a low risk and largely passive adjunct to Soviet domestic plans. Imports were employed as "a way of plugging the holes in an economy that was unbalanced, and exports

[6]The exceptions are certain forms of personal property, savings bank deposits, and some government savings bonds.

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were seen as the unpleasant but unavoidable cost of imports" (Shmelev and Popov 1989, p. 221).

This policy of ruble inconvertibility, however, was not without cost. It isolated Soviet industry from foreign competitive pressures, precluding the discovery, development, and exercise of comparative advantage.[7] It excluded the nation from integration with the expanding world economy, depriving it of the benefits of imported technology, foreign capital, and trade.

The Soviet Union now contemplates a substantial economic transformation intended to replace centrally planned administrative control over resource allocation with market mechanisms. It also desires to make the ruble a convertible currency. The experiences of other centrally planned economies with reforms of this nature have not been unqualified successes. Most of them suffered severe inflation and external imbalances (Wolf 1990). The problem then is to structure a sequence of reforms that is politically consistent with the social mores of the Soviet Union, economically coherent, and transitionally sound, in the sense that it avoids the dynamic pitfalls of lost credibility, time inconsistency, and the competition of instruments problem.[8]

Goals and Problems of Soviet Reform

Mikhail Gorbachev's call for a "humane democratic socialism" is at once a critique of the systemic failures of the Soviet experiment and a vision of the unfulfilled ideals of socialism. Gorbachev's perestroika aspires to create a cooperative society characterized by democracy, social justice, security, prosperity, and equality of opportunity.[9] The political freedoms of speech, expression, and travel have been extended by glasnost. But genuine democracy requires the grant and guarantee of a *dual franchise*, the right to vote with ballots *and* the right to vote with economic resources. Both rights are meaningless in the absence of alternatives from which to choose.

[7]Traditionally Soviet exports have been largely energy and raw materials, but the aim of ruble convertibility is to shift exports toward higher value-added products. This, in turn, will require aggressive ruble devaluation.

[8]See Edwards (1989) for a review and elaboration of these issues.

[9]These goals have been reaffirmed in the Abalkin Committee Report to the All-Union Conference: "The ultimate goal of a radical economic reform is sound economics able to ensure a highly efficient production, to reach the living standard compatible with modern living standards, to ensure social justice and a possibility to solve most urgent ecological problems. Only then can we speak about the completion of perestroika and the success of the reform. Only then will the prerequisites for the development of the Soviet society be created in conditions of freedom and democracy. Only then will the ideals and standards of socialism be established" (Abalkin 1989, p. 4).

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No easy formula can assure equality of opportunity in the exercise of economic freedoms. The problem arises because every exercise of economic freedom affects the distribution of economic resources, and any attempt to impose equality of outcomes necessarily compromises economic freedom (Friedman and Friedman 1980, pp. 134–35). Although it is impossible to assure equality of outcomes, it is possible to create a level playing field by establishing full rights to private ownership and an egalitarian distribution of economic resources with which citizens can cast their economic votes.

From the Soviet perspective, the communist experiment has achieved a reasonable degree of security and equality, but at a great cost to democracy and efficiency.[10] Soviet leaders view Western capitalism as suffering from the reverse problem, having achieved democracy and efficiency at a great cost to equality and economic security. The challenge is to conceive a novel form of economic and political organization that eliminates the apparent contradictions between capitalism and socialism in order to capture the most salient advantages of each. How, then, can a communist nation reconcile socialism with capitalism?

Redistributing the Wealth

My central thesis is that the highest principles of socialism can be attained by undertaking a program of "socialist privatization," an egalitarian redistribution of the state's custodial assets to its citizens as a prelude to the introduction of market reforms. Socialist privatization would begin with the granting of private property rights. A second stage would call on the state to relinquish its stewardship of the means of production and redistribute the nation's wealth to its citizens.

Small-scale state enterprises, apartments, and small agricultural plots would be sold to citizens in order to absorb the ruble overhang. The assets of large-scale state enterprises would be assumed by a state mutual fund, which in turn would issue "citizen shares." A large part of these income-earning assets would be distributed freely to all citizens.

[10]In fact, the Soviet system has established equality of poverty for roughly 85 percent of its population who earn less than 200 rubles per month and whose consumption opportunities are constrained by the shortage of consumer goods and services. Roughly 10 percent of the population can afford to live at "middle class" standards while the remaining 5 percent constitute an economic elite. Since official earnings are maintained in a relatively narrow range, the two prime interrelated sources of inequality are the "privilege system" of goods distribution and illegal earnings in the underground economy (Kuteinikov 1990).

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The public's newly acquired earning assets would form a wealth-based safety net to cushion the economic dislocation that is bound to accompany any radical transformation of economic institutions. The sterilization of receipts from the open market sale of assets would restore monetary balance. Monopoly power is rampant in the highly concentrated industrial structure of the USSR. The combination of shortages, lack of competition, and soft budget constraints increases the power of concentrated enterprises to charge high prices by restricting output. An essential feature of reform must be the breakup of these monopoly elements. Only then would the stage be set for the rapid introduction of market-oriented reforms.

Relative prices would then be set free to seek their market-clearing levels. In one "big bang," the price mechanism would be liberated to perform its information and incentive signaling role. The "diktat" system of centrally planned administration must then step aside to permit the price mechanism to perform its resource allocation function. The explosive forces of the big bang are contained by a stable macroeconomic environment and the shock absorber safety net put in place prior to the release of prices. This particular sequence of reforms is the one most likely to assure a sustainable stable transition path to Gorbachev's vision of a "humane democratic socialism."

A Share Economy

The outright redistribution of the nation's wealth to its citizens creates the broad foundation for the establishment of a free-market economy. Private property rights[11] form the democratic basis for the effective functioning of market mechanisms.[12] The aim of an equitable distribution of property is to establish a share economy in

[11]Private property guarantees the titled owner the rights to retain, invest, sell, distribute, disperse, transfer, and mortgage his property. It also entitles the owner to any income that derives from the property. Voluntary contracts enabling exchange between rightful owners of property are sanctioned and enforced by law.

[12]The Abalkin Reform proposals recognize the fundamental importance of property rights, and make allusions to the "de-nationalization of property." According to the report:

> One can venture to outline the principal features of the model of a new economic system within the framework of socialist options. First—diversity of forms of social property, their equality in rights and competition as the basic platform and guarantee of economic freedom of citizens, ensuring their possibility to make best use of their own faculties and creating powerful individual and collective economic motivations. The diversity of forms of social property is in no way a transitional, but normal state of the economy. It opens the possibility of doing away with alienation of the working people from the means of production, from power and participation in managing economic affairs [Abalkin 1989, p. 2].

A summary of these reforms is found in Hewett (1989).

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which citizens, in their dual roles as workers and capitalists, have an equal and direct stake in the outcome of the reform process.

Operationally, socialist privatization would distribute titles to state assets among the central, regional, and local governments; managers; laborers; and foreign investors, with the largest percentage being equitably distributed directly to the nation's citizens. State enterprises and collectives would be reorganized into smaller viable competitive firms and incorporated, with newly issued equity shares representing titled rights to ownership as well as claims to income.

A portion of these enterprise-specific shares would be earmarked for purchase by the workers, managers, and foreign investors responsible for the operation of specific corporations. They would be given the right of first refusal to acquire shares in their enterprise at prices determined by public auctions. The remaining shares would be bundled into "citizen shares" and distributed to the general public, the central government, and regional and local governments.

Socialist privatization achieves several microeconomic and macroeconomic objectives simultaneously. The unbundled shares of an individual enterprise that are earmarked for its workers, managers, and foreign investors are intended to provide them with direct incentives for efficient management. This distribution establishes both self-management and direct ownership.[13] These shares would be priced at public auction, thereby creating a mechanism for individual equity valuation.

The public share distribution would create the occasion to register and title property in the name of each citizen. Once legal title is established, each citizen is given an income earning asset that provides security against transitional dislocations. Risks of specific corporate failures would then be pooled and dispersed over the entire population. The procedure for distributing citizen shares to the public is designed to establish a rudimentary banking system with deposit and lending facilities. The open market sale of small-scale state assets for rubles would absorb the state's excess outstanding

[13]Self-management alone, creates a "rent-seeking" incentive for workers and managers to appropriate the rents of capital in the form of higher wages, salaries, and bonuses. The failures of the Yugoslavian experiment attest to the dangers of providing workers and managers with incentives to maximize short-term returns in the form of wage payments and bonuses at the expense of reinvestment of profits. The granting of direct ownership rights establishes the ability of workers and managers to accumulate, sell, and transfer equity shares. Direct ownership therefore eliminates the incentive to decapitalize the enterprise. It creates positive investment incentives since owners of shares now have an incentive to maximize the value of the equity holdings, which represent the discounted value of expected future income.

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financial liabilities which, when sterilized, would eliminate the threat of an increase in the general price level.

The central government share allocation would create a revenue source for the financing of public expenditures, without direct taxation. The government would simply collect dividend payments on its citizen shares in lieu of taxes. The shares would appear as assets on the government balance sheet, and the government could issue its own liabilities against its assets. These fully backed government liabilities could be sold to banks and the public, enabling the central bank to exercise monetary stabilization policies through conventional open market operations. The full-backing requirement places limits on monetary expansion. Asset distributions to regional governments play a similar role, creating an autonomous revenue base for local authorities to determine a politically acceptable pattern of decentralized public expenditures.

Finally, the distribution of shares to government would create a unique structure of parallel economic incentives for public agents and private citizens. Government actions are motivated and monitored by both the political process and the common economic incentives that government now shares with its citizens. The state and the public share comparable stakes in the outcome of reforms and therefore have compatible inducements to assure their success.

Transition Obstacles

To succeed, economic reforms must overcome several critical obstacles that now menace the fragile transition. These include (1) the "ruble overhang" that threatens any price decontrol program with a massive initial increase in the general price level; (2) the budget deficit, whose financing through money creation implies continued inflation; and (3) the transitional unemployment created by reallocation of labor and capital resources.

The ruble overhang is the cumulative result of past failures of central planners to create a monetary balance between the aggregate demand for consumer goods and the aggregate supply.[14] An important

[14]The problem can be illustrated by a simple example offered by Paul Gregory and Robert Stuart (1981, p. 145). The output plan calls for the production of Q_1 units of consumer goods and Q_2 units of military and investment goods. L_1 man years of labor are required to produce Q_1 and, similarly, L_2 man years of labor are required to produce Q_2. If workers are paid wage rates W_1 and W_2, respectively, then the annual gross wage income paid in rubles is $W_1L_1 + W_2L_2$. The total monetary demand for consumer goods and services (D) is then:

$D = W_1L_1 + W_2L_2 - T - R$, where T denotes personal taxes and R denotes personal savings. Given the existing consumer price level (P_1), the total supply of consumer goods at established prices (S) is the total value of consumer goods (P_1Q_1) so that: $S = P_1Q_1$. If the consumer price level (P_1) is fixed and personal taxes are given, then

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source of this chronic macroeconomic imbalance is the disproportionate allocation of total output to military and investment goods at the expense of the production of consumer goods. Soviet workers are paid in cash (rubles) to produce the entire national output, but their options for spending their earnings are limited by the relatively small percentage of aggregate output devoted to the production of consumer goods and services.

The inability of Soviet planners to match after-tax cash earnings with the value of available goods and services creates a chronic shortage of consumer goods and, consequently, an excess stock of rubles (the ruble overhang) that is accumulated in the form of household cash hoards or savings deposits. Both cash and savings deposits are poor stores of value since controlled nominal returns are less than inflation, making real interest rates negative. At the present time household savings deposits total R338 billion[15] and the unknown quantity of currency in circulation in the hands of the public is believed to range between R100 billion and R300 billion.[16] These figures suggest that the stock of rubles is presently between 1.1 and 1.6 times the annual retail sales of the Soviet Union.

Empowering the Ruble with Full Domestic Convertibility

Unlike fully convertible currencies in Western nations, the ruble is an archaic pseudo-currency. Its medium of exchange function is severely circumscribed by both foreign and domestic inconvertibility. Its convertibility into domestic goods and services is severely restricted by the inequitable and inefficient dual distribution system that plagues the Soviet economy. Access to many goods and services is determined by privilege, not rubles.

Enterprises also face an inconvertibility problem because rubles can only be used to make wage payments. All other enterprise expenditures must be made on a non-cash basis, through the use of credits

in each year, "forced" savings (R) = $W_1L_1 + W_2L_2 - T - P_1Q_1$, namely the difference between after-tax wage earnings and expenditures on consumer goods. The "ruble overhang" represents the summation of "forced" savings over all years.

[15]Reported in *Pravda*, 28 January 1990.

[16]Despite glasnost (openness), the Soviet Union remains one of the few countries in the world that does not publish the amount of currency in circulation with the public. This statistic is readily calculated by summing the annual difference between note issue and note destruction. Issue and destruction statistics are normally among the most readily available and reliable statistical data collected in any nation, owing to the security precautions that must be undertaken when notes are printed and redeemed from circulation. Any estimate of the inflation potential of price reform requires data on currency in the hands of the public.

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of the state banking system. Enterprise credit funds are themselves largely inconvertible since they must be used in accordance with the central plan, and if thought to be excessive, are often taxed away. Aggregate monetary imbalance and inconvertibility induce the hoarding of consumer goods, capital equipment, and the forced savings of rubles (Birman 1980).

It is now well understood that macroeconomic balance assuring stability of the general price level must precede the introduction of market mechanisms and price reforms (McKinnon 1989). Otherwise, relative price signals would be swamped by general price increases, robbing them of their information and allocation function. The elimination of the ruble overhang must therefore be the prelude to price reform. The traditional recessionary method of absorbing excess rubles is inflation or higher taxation. Taxes can be explicitly levied on incomes and savings deposits or implicitly imposed by wage reductions. Neither is a politically acceptable alternative in the Soviet Union because both involve expropriation. How then can monetary equilibrium be achieved without permitting massive inflation?

A direct solution is to enhance the ruble's status to that of a fully functioning monetary instrument, that is, to make it fully convertible domestically. To attain the status of a normal currency, the ruble must be permitted to serve as a genuine medium of exchange, fully convertible into goods as well as real and financial assets. The problem of the ruble overhang is not that there are too many rubles; it is that there are too few goods, and more important, too few assets that rubles can purchase.

The most direct and efficacious means of eliminating the ruble overhang is to change the institutional arrangements governing property rights in the Soviet Union. Extending ownership rights to real and financial assets would increase the demand for rubles for the purchase of such assets and decrease the demand for inventories of goods and real capital assets as stores of value. These idle stocks would then be available for consumption and use in production. Making the ruble a truly functioning monetary unit would facilitate monetary balance by increasing the demand for rubles while simultaneously reducing their supply. The elimination of domestic currency restrictions, therefore, can stabilize the general price level even as relative prices are freed to seek their market-clearing levels.

Fiscal Balance

To avoid future inflationary pressure, the USSR will also have to achieve fiscal balance, that is, the reduction or elimination of fiscal

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deficits. Deficit reduction requires increased revenues and reduced expenditures. In the program described below, the government retains a share of the nation's assets in order to provide it with a non-tax revenue source that increases *pari passu* with the success of reforms. These revenues may need to be supplemented with a general value-added tax, special excise taxes, and pollution taxes.[17]

Expenditure reductions will require smaller investment and military outlays. The replacement of central planning with market mechanisms will significantly reduce expenditures by cutting government payrolls, suspending subsidies to unprofitable enterprises, and eliminating existing subsidies on goods.[18] These changes alone might be sufficient to eliminate the current deficit.

Mechanics of Socialist Privatization

The programmatic design of socialist privatization must be consonant with long-term macroeconomic and microeconomic objectives. These include: the achievement of monetary and fiscal balance, the efficient provision of public and private goods, and an equitable distribution of income and wealth.

It is essential to create a central bank for overall monetary control and an extensive network of retail and commercial banks to provide the nation with the financial services required by a fully functioning monetary system. The creation of a banking system would be accelerated by enlisting the expertise and participation of established foreign banks and international financial organizations. Since political time horizons are short, the provision of rudimentary banking services can initially be established through the postal system, which reaches every populated area of the Soviet Union. The post offices can become the foundation of a branch banking network offering basic deposit and loan services.

The banking system's initial functions would be to establish private ownership titles to assets distributed by the state, provide deposit facilities, and grant loans against newly acquired privately held collateral assets. The state's small-scale enterprises and assets would be sold at nominal prices while citizen shares representing the assets of the large-scale enterprises would be freely distributed to all citizens. As reforms progress and true asset values become

[17]Income taxes should be kept to a minimum both to avoid supply-side disincentives and to reduce incentives for non-compliance.

[18]Food subsidies are estimated to cost the government some 60 billion rubles per year, roughly the size of the 1988 budget deficit (CIA 1988, p. 12). By 1989 these subsidies amounted to 110 billion rubles.

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established, asset appreciation would permit the gradual expansion of loans (fully secured by asset collateral) to cushion any dislocation engendered by the reform process.

Citizen Shares

The socialist privatization of some 46,000 state enterprises requires that they be reconstituted as corporations with limited liability. Corporate ownership would be evidenced by title to tradeable equity shares in each of the currently operating enterprises, entitling the owners of the shares to full participation in dividend distributions and capital appreciation of the enterprise. The shares must also be saleable on equity markets.

For simplicity of exposition, we shall initially consider a bundle of equity shares consisting of an equal fractional ownership share in each and every large state enterprise. We shall call this bundle a "citizen share." The distribution of citizen shares constitutes the most essential feature of socialist privatization, the rational pluralization of property.[19]

I suggest distributing the bundled citizen shares in the following manner: 10 percent to the central government; 20 percent to the sovereign republics; 50 percent divided equally among all Soviet citizens. The remaining 20 percent are unbundled, with individual enterprise voting stock allocated to workers, managers, and foreign investors. The initial distributions between citizens and public authorities could be subsequently modified by public referendums.

A simple instrument for evaluating the adequacy of public goods provision by government authorities would be to grant citizens the periodic right to vote for a marginal increase or decrease in the allocation of citizen shares to central and regional authorities. This mechanism would be designed to give the public an opportunity to vote to increase or decrease taxes while maintaining a balanced budget constraint. Citizens would, in effect, democratically determine the degree of economic privatization they desire by voting to change the allocation of citizen shares between the government sectors and the private sector.

[19]The socialist privatization scheme involves a separation of ownership and control similar to that found in most Western economies. Two mechanisms provide significant ownership groups with the ability to monitor management. First, a portion of the initial distribution is earmarked for managers, workers, and foreign investors with direct stakes in individual enterprises. Second, the plan anticipates the emergence of mutual funds that specialize their asset portfolios. The mutual fund managers, acting as agents for citizens, will have direct incentives to exercise their proxy ownership rights to oversee management decisions.

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The allocation of 10 percent of citizen shares to the central government enables the state to discharge its monetary and fiscal responsibilities. The asset side of the government's balance sheet would consist of its portfolio of citizen shares. These assets would provide the backing for the issue of interest and non-interest bearing government liabilities that can be sold by the central bank to commercial banks and the public.

Being fully backed by the real assets represented by citizen shares, these government liabilities establish a sound basis for executing monetary policy through open market operations by the central bank. Moreover, the equity shares in government hands provide a source of fiscal revenues that reduces reliance on other distorting taxes. Under this scheme the government would use its dividends from citizen shares[20] and other tax revenues to provide national defense, central government services, and debt service. Fiscal discipline is imposed by requiring that government debt be fully backed by the government's reserves of citizen shares. In short, the central government's holdings of citizen shares provides both a source of government revenue and a real asset-based anchor for monetary issue.

In capitalist fiscal systems, government revenue is assured by granting the government the coercive power to appropriate a portion of the future income streams accruing to its citizens in the form of taxes. Under socialist privatization, the government is granted the right to own titles to a portion of the nation's assets outright, thereby providing it with an independent revenue source. Essentially, the government's portfolio of equity holdings represents the capitalized value of the income stream it would otherwise have to appropriate from its citizens in the form of taxes.

Similarly, in capitalist monetary systems, the creditworthiness of the government is established by lenders' perceptions of the government's ability to sustain its coercive power to appropriate sufficient income from its citizens to service its debt. Under the socialist privatization program, the government's creditworthiness is assured by its outright title to a portfolio of national assets that serves as direct backing for its issue of government liabilities.

The 20 percent of citizen shares distributed to regional governments is stipulated to provide those authorities with a national revenue base for public expenditures. These social expenditures would include health, education, welfare, environment, and infrastructure, with the composition and amount to be determined through the

[20]The revenues yielded by the shares held by the central and regional governments is estimated to be between 84 billion and 135 billion rubles per year (see Feige 1990c).

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democratic political apparatus governing each of the republics. Each republic would be encouraged to allocate a portion of its shares to local authorities. This would permit diversity in the choice of public goods and services and assure local citizen control over those services that most directly affect their well-being.

Gaining Monetary Equilibrium and Public Confidence

Socialist privatization envisions that 50 percent of all citizen share bundles will be distributed in equal shares to each and every citizen. The value of the citizen shares distributed to the average Soviet family is estimated to be between three and four times average family income (Feige 1990c). Each citizen will receive his or her share entitlement through a nationwide share registration program, and also be permitted to purchase small-scale assets. The nominal cost of these assets would be set at the lowest possible price consistent with the achievement of monetary balance.[21] The idea is to use the asset distribution to absorb and sterilize a sufficient amount of excess rubles to restore the monetary equilibrium required for overall stability of the price level.

Given the current level of earnings and the skewed distribution of wealth in the Soviet Union, many citizens may not have sufficient liquid savings to directly purchase assets even at the low nominal price.[22] Citizens without requisite means would be entitled, upon registering their shares, to establish a bank deposit account and receive a loan to aid in the purchase of small-scale assets. The citizen share or the purchased asset would serve as loan collateral.

The interest rate on the loan would have to be set above the interest rate on ruble deposit accounts but below the expected rate of appreciation of the citizen share. This rate structure would provide an incentive to pay for shares with available rubles rather than through the loan mechanism.

The proposed citizen share distribution serves several reform goals simultaneously: (1) It institutes a painless ruble absorption mechanism for establishing monetary balance without having to resort to

[21]The sale of agricultural capital and the housing stock would be more than sufficient to absorb the ruble overhang (Feige 1990c). Citizen shares could then be freely distributed.

[22]Soviet sources suggest that the present distribution of savings deposits is highly skewed, with 3 percent of the population holding 50 percent of savings deposits. Seven out of eight Soviet citizens are reported to have no savings at all (CIA 1989, p. 6, n. 14). However, Soviet statistical reports suggest that in 1988 there were almost 200 million deposit accounts (State Committee on Statistics 1989, p. 69).

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inflation or direct taxation. (2) It establishes an egalitarian asset distribution, providing each member of society with a direct stake in the successful outcome of the reform process, while providing each citizen with income-earning assets that serve a safety net function to cushion the dislocation effects of reform. (3) It facilitates the institution of a nationwide banking system that provides basic deposit and loan services. Consequently, it performs an indispensible function of introducing and educating the public in the use of basic banking facilities.

Management Incentives, Foreign Investment, and Equity Valuation

Three interdependent problems remain to be solved. First, how are citizen share equity values to be determined? Second, how can we assure adequate incentives for workers and management to strive for productive outcomes if management and ownership are largely divorced? Finally, how can we achieve ruble convertibility for international currencies?

Each of these issues is addressed by the proposed distribution of the remaining 20 percent of the nation's citizen shares. In an economy without any history of equity markets and hence no experience in share valuation, it is necessary to enlist the talents of those individuals most likely to possess relevant information and skills appropriate to the task of asset valuation. It will be recalled that each citizen share is composed of a bundle of disparate shares of separate economic entities. The shares of each separate entity, therefore, need to be priced before it is possible to determine a composite market valuation for a citizen share.

Market pricing of unbundled equities of specific firms can only take place after financial and price reforms have been enacted. Financial reforms require the elimination of subsidies to unprofitable firms by the earnings of successful firms. This necessitates the replacement of "soft budget constraints" by "hard budget constraints."[23] Under these circumstances, some of the enterprises represented in the citizen share bundle will no longer be viable, and bankruptcy provisions must be established for these enterprises.

Successful firms, no longer burdened with the taxes required to subsidize ailing firms, will show increased profits and new entrants will be attracted to these lines of business. Reforms must therefore provide for exit of failing enterprises and entry of new firms into

[23]See Kornai (1986) and McKinnon (1989).

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profitable business areas. Ownership rights in any new firms that substantially benefit from the dissolution, reorganization, or asset sales of existing firms must be distributed in accord with the initial socialist privatization plan. This assures that neither the government nor the public will suffer a dilution of its equity interests as a result of dynamic industrial reorganization. Newly established companies with independent sources of capital would be encouraged to compete with existing enterprises in order to eliminate residual monopoly profits.

Proper valuation of equity shares requires that investors have sufficient information to form reasonable expectations about present and future profits. This in turn requires projections of input costs and output prices. While central planning authorities already establish relative prices for goods and factors of production, these prices do not reflect true scarcity values or opportunity costs. Nor do they flexibly respond to changing economic circumstances. If relative prices are to convey both appropriate information and incentive signals, major efforts must be undertaken to break up existing monopolies into smaller competitive enterprises. Once this is accomplished, centrally controlled prices must be set free to clear markets. This strategy represents a constrained big bang approach to reform. Prices of goods regularly traded on international exchanges could initially be set to conform with international market prices so as to minimize the distorting effects of residual monopoly power in some industrial sectors of the USSR. All other prices should be set free to seek their market-clearing levels.

Price controls are best eliminated all at once rather than by the more timid, and more distorting, method of step-by-step reform. This is particularly true when price reforms are preceded by a program of socialist privatization, which serves both to speed and buffer the adjustment process. The prior establishment of monetary balance permits market-determined relative price changes to quicken the pace of resource reallocation since relative price signals are not contaminated by increases in the general price level.

The elimination of central planning directives and bureaucratic controls significantly reduces transaction costs of exchange. The dispersed holdings of property rights pools risk and provides an asset buffer that enables individuals to withstand the disruptive consequences of transitional unemployment. In short, socialist privatization helps to speed the adjustment process initiated by the big bang while cushioning its transitional impact. It is the newly distributed asset shock absorber and the established monetary stability that contain the explosive forces of the big bang.

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With relative prices of goods and factors approaching, however roughly, their market-clearing values, it is possible to value equity shares. Initial equity prices of individual enterprises would be established at public auctions of the undistributed shares representing 20 percent of the original share issue. The richest source of information relevant to the pricing of equity shares of any particular enterprise resides with its managers and workers. The richest source of skills for valuing equity shares is to be found in the international financial and entrepreneurial community. It is therefore essential that both of these sources be given incentives to enlist their knowledge and skills to attain appropriate share valuations at the public auctions.

Managers and workers in particular enterprises serve an additional vital function. It is their specific efforts that will determine the efficiency with which enterprises operate. It is therefore essential that they be provided productivity incentives that contribute to the public interest (as represented by the shareholders of the initial distribution). To enlist their information advantage, and to stimulate their operational talents, workers and managers of every separate enterprise should be given a right of first refusal to purchase 10 percent of their enterprises' outstanding shares at the prices determined by public auctions. Similarly, international financial entrepreneurs should be offered an inducement to participate in the share-pricing process by giving them the right to purchase up to 10 percent of the remaining outstanding shares at the public auction prices.

The proposed procedure would accomplish the three interdependent goals: the nation's equities would be priced by engaging the talents of those most able to assess their market value; management and labor of particular enterprises would have an equity incentive to increase the efficiency, productivity, and profitability of their enterprise; and foreign investors would be given an incentive and opportunity to purchase shares of particular enterprises, giving them a direct interest in the sound restructuring of management practices and the introduction of new capital and new technologies.

Foreign investors would be required to purchase shares with rubles, which in turn must be purchased with foreign currency. Since most of the excess rubles will already have been soaked up by the sales of assets to Soviet citizens, the foreign demand for rubles to purchase Soviet assets will raise the international value of the ruble. The foreign currency reserves created through the sale of assets to foreigners, in combination with the asset backing of the ruble, should be sufficient to establish the ruble as a *de facto* internationally convertible currency.[24]

[24]Wayne Angell (1989) and Daniel Gressel (1989) have proposed specific plans for

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Creating Confidence and Credibility

As soon as initial equity values for specific shares have been established by auction, the Soviet stock exchange would open for public trades. The daily stock exchange index value of a "citizen share"—the Soviet equivalent of the Dow Jones index—would be prominently published in every Soviet newspaper and serve as a visible indicator of the progress of perestroika reforms. Confidence in the reforms will be bolstered by rising share values and a steady stream of dividend payments to shareholders.

During this crucial period, the aggregate value of citizen shares is expected to appreciate substantially. This appreciation is assured by the low initial cost, the elimination of current mismanagement practices,[25] and the efficiency and productivity gains brought about by the improvement in information and incentive systems. Every upward movement of the citizen share index will help to build confidence in the success of the reforms. The confidence will be reinforced by permitting gradual increases in loans that can be used to acquire other sources of real property such as land, apartments, capital, and equities.

Initially, all enterprises would be required to pay out their profits in the form of dividends. Firms' investment requirements would be financed by loans through the banking system whose function is to provide intermediation services between savers and investors. Both the equity and debt markets will establish positive real interest rates, thereby creating a meaningful channel for the allocation of savings to investment.

Continued confidence in the success of reforms will also require a visible reduction in shortages of consumer goods and services. Demand will be reduced by the elimination of the ruble overhang and the use of rubles to purchase available stocks of real assets. In addition, there must be an increase in the supply of consumer goods and services. Partial ruble convertibility will discourage the hoarding of inventory stocks and improve prospects for imports of consumer

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establishing international ruble convertibility. The Angell plan involves a gold backing for the ruble to provide an internal monetary anchor. The Gressel plan involves a foreign currency fund reserve for the ruble, thus providing an external anchor. The socialist privatization program represents a hybrid solution. A ruble backed by the real assets of the Soviet economy as evidenced by citizen shares represents another type of internal anchor. The sale of enterprise shares to foreigners establishes a domestic fund of foreign currency reserves that can be used to allow profit repatriation in much the same manner as an external anchor.

[25]A major efficiency improvement will result from the elimination of redundant inventories that are now rampant in Soviet enterprises.

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goods. Increased imports of consumer goods could play an important short-term role in gaining public support for the overall reform effort. However, a premature import policy could diminish the urgency of structural reforms and leave the Soviet Union with a considerable debt burden, without the export ability to reverse it. In this regard a gradual, more credible, policy that can be sustained over the longer term is to be preferred to a "quick fix" solution that risks longer term policy reversal.

The reallocation of military and investment expenditures to consumer goods will also help to improve available supplies. Unconstrained market prices will provide information and incentive signals for the entry of new enterprises into consumer markets. Private ownership rights and price incentives are likely to induce improved productivity in both industry and agriculture.

Partial Convertibility Measures

The caution expressed with regard to the timing and sequence of trade liberalization does not preclude a policy of "institution building" to pave the road for eventual convertibility. Ruble auctions can be usefully employed, and deepened in terms of participation, both as a test of the ruble's international exchange value and as an indicator of the confidence engendered by structural reforms.[26] In this setting, partial liberalizations would include extending participation in auctions to a wider group of economic agents. These should include newly formed cooperatives and joint venture companies. This market deepening must be accompanied by liberalization of restrictions on the use of hard currencies obtained through auctions.

The implicit devaluation, signaled by recent ruble auctions, provides considerable export incentives, particularly for the traditional exports of energy and raw materials. What is necessary, however, is that incentives be sufficient to induce the production of exportable goods with higher value-added content (Vanous 1988). If further restrictions are required along the way, theory and experience suggest that tariffs are preferable to quantitative controls.

Conclusion

My proposal for attaining ruble convertibility must of necessity go well beyond the convertibility question. Convertibility is inextrica-

[26]At present, many firms bidding for hard currencies are not subject to hard budget constraints and, therefore, are able to bid artificially high ruble prices for dollars. Auctions will only be a meaningful market test after instituting hard budget constraints.

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bly bound to structural reform, but the relationship is not entirely symmetrical. Macroeconomic stability and well-functioning microeconomic allocation and distribution mechanisms are crucial for the success of trade liberalization. Conversely, while expanded trade can reinforce other reform efforts, its overall contribution is likely to be small in comparison with more fundamental systemic restructuring.

We are witnessing a historically unprecedented reform effort, both in its nature and scope. If convertibility is to be attained and maintained, the structural reforms must succeed in establishing macroeconomic stability and microeconomic efficiency. This success depends critically on the sequence, timing, credibility, and coherence of the overall reform package. Step-by-step approaches have been tried and have only worsened stagflation, lengthened queues, and stiffened resistance to further reform. Credibility and public support are already at a low ebb. These tendencies can only be reversed by a radical program of restructuring that is seen to be economically and politically coherent. The greatest danger of a rapid move toward market mechanisms remains the ruble overhang. The Soviet political consensus is weaker than that of Poland, and there is likely to be less tolerance for deeper economic hardship. Socialist privatization, as a prelude to allocation reforms, minimizes this danger by absorbing excess rubles and providing a secure safety net for the general public.

Narrower solutions to the ruble convertibility problem, like those relying on gold or foreign currency backing of the ruble, are not inconsistent with the foregoing proposal. However, their credibility will be sorely tested unless the broader problems of macroeconomic and microeconomic imbalances are first resolved.

On the basis of Soviet realities, theoretical conjecture, and historical experience, it seems reasonable to conclude that macroeconomic imbalances and the systemic failure of domestic allocation and distribution mechanisms are so pervasive that they preclude a major role for ruble convertibility in the near term. Domestic convertibility is seen as the best hope for aiding perestroika reforms in the short and medium term. To avoid damaging their credibility, Soviet reformers should defer foreign convertibility to the final stages of the overall restructuring process. The cost of such delay is the sacrifice of some near-term potential gains from external competitive pressures and from trade. The more compelling benefit of postponement is the avoidance of political, inflation, and real exchange rate risks that threaten premature foreign convertibility with reversal and failure. The introduction of hard currency auctions is a useful step for establishing a barometer of the credibility and success of broader reforms

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in the international market. Similarly, the dissolution of the state's monopoly on foreign exchange transactions creates an opportunity for other economic agents to gain experience in foreign exchange operations.

The communist experiment sought to establish a cooperative, equitable, democratic, and prosperous society by placing ownership of the means of production in the hands of the state and directing the economy bureaucratically according to a central plan. It is now increasingly acknowledged that the experiment did not succeed in attaining its goals. Yet paradoxically, the failed experiment has created a unique opportunity to salvage its goals by now undertaking a reform program of socialist privatization. By overseeing the return of state custodial property to citizens and initiating market-oriented price reforms, perestroika can directly effect an egalitarian distribution of wealth and create the requisite environment for ruble convertibility to become a reality.

The conceptual framework outlined here attempts to sketch a final destination for perestroika and a road map for transition that anticipates and circumvents the most serious obstacles along the way. The particular sequence of reforms and their wholehearted execution are crucial to their success, as well as to the ultimate hopes for full ruble convertibility.

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Ruble Reform: A Lesson from Keynes

Steve H. Hanke and Kurt Schuler

Introduction

In the past two years, the production of monetary reform proposals for the USSR has grown into a cottage industry. The USSR's proclaimed intention to develop a more market-oriented economy and its recent problems with rapid money supply growth have prompted that flurry of activity among economists.

The inconvertibility of the ruble is at the heart of the USSR's economic problems. A market economy requires a currency that people can use to purchase a wide variety of goods and services ("internal convertibility"), that is readily convertible into foreign exchange at free-market rates ("external convertibility"), and that is a reliable store of value. Only such a currency can be a fully effective tool of decentralized, market decisionmaking. Until the ruble becomes a convertible currency, market-oriented reforms will be difficult and the USSR's economy will continue to stagnate.

The most prominent reform proposals (such as Angell 1989, Shmelev and Popov 1989, the Shatalin plan, Brada et al. 1990, and Wanniski 1990) suggest a great variety of methods and timetables for achieving ruble convertibility. However, they have one thing in common: all explicitly or implicitly propose to achieve convertibility through a central bank, whether the present USSR State Bank or a Western-type central bank. The reformers' common element, a central bank, is curious in the Soviet context, since historical experience strongly suggests that it will fail to maintain convertibility. Russia has had government currency issue since 1768, and a central bank

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Steve H. Hanke is Professor of Applied Economics at Johns Hopkins University and Chief Economist at Friedberg Commodity Management, Inc. He serves as the Advisor to the President at DRT International/Eastern Europe. Kurt Schuler is a graduate student in economics at George Mason University.

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since 1860. However, it has had a fully convertible currency for only 35 of those years.

The czarist government suspended fixed-rate convertibility of the ruble into silver in 1786. It made several half-hearted attempts to restore convertibility in later decades, but always retreated under the pressures of war finance. It established fixed-rate convertibility into gold in 1897 during the term of the reformist finance minister Count Sergei Witte. That gold standard worked well while it lasted. However, when Russia entered World War I in 1914, it went off gold and adopted a regime of inflationary finance.

In the first years of Bolshevik rule, inflation turned into hyperinflation, which along with the ravages of war wrecked the economy. To revive the economy, the Bolsheviks in 1922 introduced a parallel currency, the chervonetz. Though not redeemable at a fixed rate for gold, the chervonetz was nominally backed by the government's gold reserves. That monetary reform and simultaneous reforms in other areas allowed limited free-market activity. In consequence, the Soviet economy achieved its highest growth rate ever (Shmelev and Popov 1989, pp. 37–40, 288–89). However, by 1928 the Soviet government ceased foreign transactions in the chervonetz and outlawed the most important forms of free-market activity. Ever since, Soviet currency has been the internally and externally inconvertible currency that it is today.

The Currency Board Alternative

Lack of success in maintaining a convertible currency is not unique to the Russian and Soviet central banks. It has also characterized Western central banks (as in the breakdown of the Bretton Woods system) and Third World central banks (many of which impose exchange controls and cause periodic bouts of hyperinflation). Therefore, rather than rely on a central banking system for convertibility, we should explore other systems. Several writers (Gressel 1989, Hanke and Walters 1990a and 1990b, Hetzel 1990) have suggested that the best means to achieve and maintain convertibility would be a currency board system.

The principal attributes of currency boards are (1) issue of domestic currency readily convertible into a foreign-reserve currency (or commodity) at a specified and fixed rate, (2) a domestic currency backed by liquid reserves held by a board and denominated in a foreign-reserve currency, and (3) reserves equal to or greater than the value of the domestic currency issued (Walters 1988). The discipline of convertibility at a fixed rate and reserve-currency backing establish

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stability and confidence in the domestic currency, which thus make it suitable as a basis for free-market economic activity.

As evidence that these results would be obtained, we need only look at the record of currency boards. Boards were ubiquitous in the British colonial regimes of Africa, Asia, and the Caribbean. As colonies became independent states in the 1950s and 1960s, many institutions that were identified as "colonial" were maligned and condemned. In consequence—with the notable exceptions of Singapore, Brunei, and Hong Kong—currency boards were discarded in favor of central banks. This was unfortunate because the currency board system had a number of important advantages. For example, under the currency board system, exchange rates were fixed; colonial monetary policies were passive; and transactions on both current and capital accounts were relatively unimpeded. In consequence, colonies always enjoyed roughly the same relatively low rates of inflation as the metropolitan centers that they were linked to. Colonies with currency boards did not have central banks; hence they simply did not have the means to create money, manipulate exchange rates, and finance government deficits by borrowing from central banks. By depoliticizing the monetary system and insulating the public purse from rapacious politicians, the currency board system gave credibility to the fixed exchange rate. This allowed citizens to willingly hold both currency and deposits knowing that their value would be maintained.

The currency board system had another major virtue. It facilitated natural linkages between the colonies and metropolitan capital markets. Branch banks from the metropolitan centers were found in most colonies. With these banks and unimpeded capital flows, colonial residents had access to large pools of capital, which were available on competitive terms. Hence, interest rates in the colonies were somewhere near those that existed in the metropolitan centers.

In addition to the advantages associated with linkages to metropolitan markets, the colonies had easy access to metropolitan financial expertise and training. In consequence, indigenous firms, often with correspondent arrangements in the home countries and markets, developed to intermediate between local savers and investors. Finally, boards captured non-inflationary seignorage. This resulted because their liabilities (notes) were non-interest bearing, while their reserve assets were, in large part, interest-bearing government bonds, which were held on deposit in metropolitan central banks.

The financial arrangements that currency boards fostered led to an extraordinary expansion of savings, investment, exports, and income in many countries in colonial Africa and Southeast Asia. For example,

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before 1885, there was not a single rubber tree in Malaya (now Malaysia) nor a single cocoa tree in British West Africa. By the 1930s, however, rubber, cocoa, and other export crops were being produced on millions of acres, and most of them were owned and cultivated by non-Europeans. Such a transformation, from subsistence to market agriculture, required a massive capital investment. Although considerable capital flowed into these enterprises from abroad, much of it was generated by indigenous savings. This is clear evidence that freedom and financial stability—which accompanied the liberal economic order and specifically the currency board system—were crucial elements in stimulating sound investments in projects with very long maturities.

What makes the currency board system of even greater interest for the USSR today is that it has been tried and has succeeded in Russia. A currency board existed in 1918 and 1919. It issued currency for the anti-Bolshevik government of North Russia. Surprisingly, the North Russian currency board was the idea of none other than John Maynard Keynes.

There are no references to Keynes's scheme in the standard biographies about him or in his *Collected Writings*. The only published discussion of Keynes's North Russian currency reform of 1918 is an article by Dominick Spring-Rice that appeared in the *Economic Journal* of September 1919. Spring-Rice was an official sent by the British War Office to advise the Allied forces on financial matters. His grasp of currency matters was solid, and he wrote from first-hand knowledge of most of the events he discussed. Although his article is quite useful, it only represents a progress report rather than an analysis of a completed episode. The Bolsheviks overran North Russia and the North Russian currency went out of circulation *after* Spring-Rice wrote. We shall supplement Spring-Rice's description and partial account with information from British Foreign Office archives.

The Emission Caisse

In consequence of a series of accidents and blunders, the World War I Allies became entangled in the Russian civil war, supporting the Northern provisional government headquartered in Archangel. Allied troops in North Russian made a force of about 10,000 troops. One of the force's pressing needs was how to pay for local services it needed. Currency in the North was quite heterogeneous: czarist, Kerensky, Bolshevik, and local White government notes all circulated (v. 3295, p. 102—citations that list a volume and page number

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but no author are from Great Britain, Foreign Office, Russia correspondence). The Russian State Bank branch at Archangel declared itself independent of the Petrograd head office after a White coup and issued its own notes as the State Bank of Northern Russia. Even though none of the currencies had a reliable value—they were inflated or often forged—the Allies sometimes lacked adequate supplies of notes to pay dock and railway workers. The Allies were forced to acquire notes by selling imported goods locally. Indeed, on occasion, the Allies were so desperate for notes that they dumped goods on the market for less than they had paid.

Spring-Rice began thinking immediately of how to improve the Allies' financial situation. In a memorandum written on July 3, 1918, at Murmansk, he suggested that "the task of providing currency for local needs should, if possible, fall on the local authority," perhaps in combination with a loan to the provisional government in British pounds (v. 3344, pp. 249–50). On July 9, the British general at Murmansk asked the British government to print notes for British military use at Murmansk (Spring-Rice 1919, p. 282).

John Maynard Keynes, who at the time was a British Treasury official responsible for war finance, became involved in establishing a North Russian currency in August. Both Spring-Rice (1919, p. 284) and Foreign Office records (v. 3970, p. 22) credit Keynes with thinking up the details of the currency issue scheme. Indeed, Keynes wrote two notes on the subject, which we discovered in the Foreign Office archives (v. 3295, pp. 52, 62–4). On September 11, the British commissioner in Archangel received a telegram outlining Keynes's scheme (Spring-Rice 1919, p. 284).

The essential elements of the note issue scheme were set forth in a resolution of the Northern provisional government's Financial and Economic Council on October 9. The following points were officially published November 11 (Spring-Rice 1919, p. 286).

The provisional government established an agency called the National Emission Caisse (North Russia). ("Emission Caisse" is the French term for "note issue office.") The Caisse was to be an organ of any successor government to the Northern provisional government. The president of the Caisse for the first six months was to be a British banker, Ernest M. Harvey.

The Caisse was to issue notes for 1 to 500 rubles and small-change coins or notes. It was to exchange its rubles for British pounds at a fixed rate of 40 rubles per pound by issuing checks on banks abroad (mainly in London). The Caisse was also to accept U.S. dollars and French francs in exchange at their rates against the British pound. Anyone wishing to buy the Caisse's notes had to do so with foreign

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currency. The provisional government guaranteed the notes with its whole property. But, more important, the Caisse's note issue was backed with a pound sterling reserve equal to at least 75 percent of the issue. This reserve was on deposit with the Bank of England. The Bank of England deposit was the Caisse's inviolable property, and hence could not become a Bolshevik possession should the provisional government fall from power. The Caisse was also allowed to buy the provisional government's bonds up to 25 percent of its note issue.

The Caisse was expected to make profits from its deposit at the Bank of England and its holdings of provisional government bonds, since both paid interest, while the notes it issued did not. The Caisse and the government were to share profits (50–50) until the Caisse accumulated a further reserve of 10 percent of its note issue. Any profits beyond that were to go entirely to the government (v. 3295, pp. 343–47, 529–31).

The Caisse worked like the West African Currency Board, which had been established for Britain's colonies in that region in 1912. The West African Currency Board became the model for many similar boards in other British colonies in the first half of this century. Keynes was familiar with the West African Currency Board: he wrote a review in the *Economic Journal* of the report establishing the board (Keynes 1983 [1913]). He was also an expert on the somewhat similar Indian monetary system, having served on a British government commission of inquiry into it and published his first book on the Indian system (*Indian Currency and Finance,* 1913). The idea behind the colonial currency boards was to enable local governments to capture the seignorage from note issue that would have accrued to the Bank of England had its notes been used instead.

It was typical of currency boards to only issue notes and coins. Indeed, they usually did not conduct deposit business. In addition, British currency boards maintained a fixed exchange rate between local currency and the British pound. Orthodox currency board practice called for keeping reserves of 100 percent to 110 percent in pounds sterling in London (Walters 1988). The rationale for keeping reserves in excess of 100 percent was to provide a cushion should the bonds or other sterling assets suddenly fall in value. Some later currency boards operated with reserves of less than 100 percent, as did the North Russian Caisse.

The Emission Caisse in Operation

The British government bought 100 million rubles in notes from the Emission Caisse to provide for the Caisse's reserve. The notes

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entered circulation at Archangel, where the Caisse had its headquarters, and at Murmansk, by British military payments to the local populace. The first shipment of notes arrived in Archangel about November 3. Because the printers had made the notes as quickly as possible, they had used plates of czarist notes for the basic design. In their haste, the printers had not noticed that the notes still bore czarist insignia. To circulate the notes as they were would have upset anti-monarchists and would have been an enormous propaganda blunder. Hence, several days were lost while the Caisse's staff blotted out the imperial insignia by hand on each note (v. 3295, pp. 273, 276; Ironside 1953, p. 81). The Caisse's board of directors met for the first time on November 27, 1918, and the official gazette announced the Caisse's opening for business the next day (v. 3295, p. 527).

The British commissioner in Archangel estimated that as of mid-October 1918, about 600 million rubles of all types were in circulation in North Russia (v. 3295, p. 89), which had a population of about 600,000. When the new Emission Caisse rubles were introduced, British military authorities, who still needed old rubles for some purposes, fixed the exchange rate at 48 old rubles for 40 new rubles (= £1) as the Caisse directors and British government officials had proposed. (The prewar rate had been 9.57 rubles per £1.) Curiously, the Northern provisional government and the State Bank of Northern Russia tried to prop up the exchange rate at 45 old rubles to 40 new rubles, perhaps because they had issued some of the old ruble notes in circulation. They were waging a losing battle, however, because the supply of old rubles was growing rapidly as the Bolsheviks and White governments elsewhere inflated rapidly to finance their civil war expenditures. At this time, there were over 2,000 separate issuers of fiat rubles, and all the old rubles issued by them exchanged at the same rate. The rate that the British military offered for 40 new rubles stayed at 48 old rubles until April 1919, when it fell to 56. By the beginning of May it was 64, by mid-May, 72, and by the second half of June, 80 (v. 3969, p. 455; v. 3970, pp. 48, 80, 149). The depreciation of old rubles overcame the initial reluctance of many people to use the unfamiliar new ruble, which was maintaining its purchasing power (v. 3970, p. 23). Indeed, by mid-April 1919, the circulation of old rubles in North Russia had fallen from 600 million, when the Caisse began operation, to about 300 million (v. 3969, p. 478). The Caisse's notes were driving the old inferior rubles out of North Russia.

The End of the Emission Caisse

The Allied intervention in Northern Russia became increasingly unpopular in the Allied countries after World War I ended in

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November 1918. The intervention no longer served any purpose related to war against Germany, and it entangled the Allies in a bloody civil war. The British government decided in March to withdraw its troops from North Russia. The other Allies took similar action. By September 27, the last Allied troops left North Russia (Rhodes 1988, p. 121).

The Caisse announced that it would close in Archangel and redeem all the notes presented to it. The British military command still held about 55 million unused ruble notes. To prevent them from falling into Bolshevik hands, the War Office instructed the British military commander to burn them. Because the notes were wrapped in bundles, which the weather had made damp, the notes would not burn. In consequence, they were dumped at sea (Ironside 1953, p. 81), and the British received a book-entry credit for the destroyed notes.

The Caisse officially closed to the public in Archangel on October 4, 1919, despite the provisional government's protest. It continued to redeem notes collected by the provisional government and the State Bank of Northern Russia until October 15 (v. 3970, pp. 492, 498). The Caisse moved to London. Its main business there was redeeming the 55 million rubles that the British government held as a book credit. About 13.5 million rubles remained in the hands of the public. British troops returning from Northern Russia held a small amount of rubles, but most rubles were still in Russia. The Caisse's president suggested that the North Russian provisional government and a bank that was serving as the Caisse's agent in Norway be allowed to redeem notes as long as Archangel did not fall to the Bolsheviks. He proposed accordingly that the British government refrain from redeeming all the rubles it held. Such action would have provided a sufficient reserve for the rubles still in the hands of the public. He argued that "the assertion of our financial integrity is well worth £300,000. The Northern Rouble is known throughout North Russia and Scandinavia as the English Rouble. . . . It is the only good money seen in Russia since the Bolshevik revolution" (v. 3970, pp. 507–21).

Without Allied troops, the existence of the North Russian provisional government was precarious. It held on for several months because the Bolsheviks were concentrating their forces elsewhere. When the Red Army mounted a campaign in North Russia early in 1920, the provisional government's army disintegrated. The government fled on a ship to England on February 19, and two days later the Bolsheviks entered Archangel. The Emission Caisse remained open in London until April 30, 1920 (v. 3970, p. 597). After that date, it ceased note redemption. There seem to be no records of the

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Caisse's final disposition in Foreign Office archives, but judging from correspondence from the last few months of its existence, most of the 13.5 million rubles in the hands of the public never were redeemed, inflicting a loss on their holders. The British government, therefore, ended up losing about 15.5 million rubles (£378,500), the difference between the now worthless North Russian government bonds the Caisse held and the notes that were never redeemed.

The Emission Caisse's Relevance for Today

The North Russian currency issue scheme was on the whole quite successful. The currency never deviated from its fixed exchange rate with the British pound. In contrast to currencies being issued by other Russian governments at the time, the Northern currency was a reliable store of value. In consequence, the Caisse's rubles tended to drive the others out of circulation in North Russia. With the North Russian currency, the Allied army was able to buy and sell goods almost as easily as if it had been at home on maneuvers.

As well as its usefulness to the Allies, the Caisse could have earned profits for the North Russian government had the government and the Emission Caisse continued to exist. During its first and only year, the Caisse suffered a loss because of the excessive cost of printing notes quickly and because its North Russian government bonds became worthless. Had it continued to exist, it would have probably shown a profit from its second year forward. The cost of printing the first batch of notes was an atypical expense. Later issues could have been printed less quickly at lower cost. Furthermore, many of the notes would have stayed in circulation for years before wearing out and needing to be replaced. The North Russian government bonds that the Caisse purchased at the start of its operations would have been redeemed had the Whites triumphed over the Bolsheviks.

The currency scheme suffered from only one defect: the purchase of North Russian government bonds as collateral for 25 percent of the note issue. Using local government bonds as collateral was the sole respect in which the Emission Caisse deviated from orthodox currency board practice, which required a reserve of at least 100 percent, held in foreign exchange only. British colonial currency boards, which resembled the Emission Caisse in other respects, generally kept a 105 or 110 percent reserve. When the time came to liquidate the Caisse, the worthlessness of the North Russian bonds left it bankrupt. Fortunately for the British government, the major holder of the Caisse's notes, some notes were in circulation too

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far away to make redemption in London feasible before the Caisse closed. That reduced the British losses.

When we consider how difficult the circumstances that faced the Caisse were, we must conclude that the scheme worked well. In consequence, the Caisse's performance deserves a close look today. Indeed, its experience suggests how the USSR could make the ruble a convertible currency.

A currency board would replace a central bank. The new board would set aside foreign exchange assets in hard currencies sufficient for a 100–110 percent reserve against a new note issue. How much foreign exchange the currency board would need would depend on the exchange rate between the new notes and hard-reserve currencies. This rate would best be determined by allowing old currency to float against hard currencies. After a prudent period of observing floating exchange rates, the currency board could fix a "proper" rate for the new currency vis-à-vis its reserve currency. If the government did not have enough foreign exchange, it could borrow from Western governments and/or multinational organizations, pledging to repay from the interest from the currency board's holdings of foreign exchange assets. Recall that a board's gross profits would arise from the difference between interest on its investments and its note issue, which would pay no interest to noteholders. As long as the interest rates on a board's investments exceeded its borrowing rates, it could probably raise a considerable amount of foreign exchange for backing of note issues.

A fixed exchange rate with a reserve currency is vital. All successful currency boards have had a fixed exchange rate. The fixed rate enforces a discipline that presumably would not be so strong under purely discretionary monetary policy. The reserve currency could be a single foreign currency (most likely the U.S. dollar or German mark), a basket of currencies (such as the ECU), or gold[1]; present and past currency boards have used each type of reserve currency successfully.

A potential weakness of *government* currency boards is the fact that there is no absolutely binding way to keep the government from forcing the board to devalue for domestic political reasons (Hetzel 1990). Perhaps one way to insulate currency boards from the possibility of political meddling with their exchange rates would be to fran-

[1]A well-organized market for lending physical gold has recently come into existence in London. The *Financial Times* publishes daily the loan rates established in the gold market. Hence, through gold loans, a currency board could earn interest on its gold reserves.

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chise a *private* currency board. The franchise would be awarded on the basis of competitive bidding (Demsetz 1968). The franchisee would be entitled to issue private domestic notes based on specific terms contained in the franchise agreement. A private board would probably operate more efficiently and instill more public confidence than a government board.

Another way to depoliticize currency issue would be to allow banks to issue their own notes in competition with the currency board (whether the board were privately owned or government owned), as happened in some British Caribbean colonies. None of the notes would be a forced legal tender, so people would be at liberty to use the notes that they preferred. Under that arrangement, the currency board system would function as an incubator for what could evolve into a fully deregulated "free banking" financial system.

Currency boards have worked well in the past in many countries, mostly British colonies or former colonies, but also a handful of quite diverse countries. They were replaced by central banks, mainly for *political* reasons, not economic ones. Hong Kong and Singapore, two of the world's fastest-growing economies since World War II, have currency board systems. The experience of the Emission Caisse of Northern Russia provides a particularly interesting model for the USSR and other countries that are attempting to liberalize their economies and establish sound, convertible domestic currencies.

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The Economics of Regulating Deception

Paul H. Rubin

Introduction

Deception is the deliberate manipulation of information for the purpose of gaining some advantage.[1] In order to understand the economics of deception, it is necessary to start with the economics of information. There have been several major analyses of the implications of the economics of information for the regulation of deceptive advertising.[2] However, since these were written, there has been significant research on the economics of information. This research can be used to generate additional insights on the proper scope of regulation of deception. This article points out some of the theoretical conclusions from this new literature, and places these conclusions in a policy context.

The earlier literature derived two major policy conclusions. First, truthful information regarding price should not be restricted by regulatory authorities. Second, deception is most likely and most harmful in the case of "credence" goods, and regulation is most useful (if it is useful at all) in the case of these goods.

In the next two sections, I discuss these issues by examining advertising of prices, regulation, and types of goods. I then examine regulation of true information about characteristics of goods other than price, address policies of mandating disclosure of "negative" information, and discuss remedies. The final section restates the key policy conclusions.[3]

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The author is Professor of Economics at Emory University. He wishes to thank William MacLeod and John Calfee for helpful comments. The usual caveat applies.

[1]While humans engage in deception in many dimensions for many types of advantage, here I will confine myself to commercial deception through advertising.

[2]See, for example, Schwartz and Wilde (1979); Jordan and Rubin (1979); Beales, Craswell, and Salop (1981).

[3]The economic literature on advertising is voluminous, and I mention only those parts that are relevant to issues of deception. For some general surveys, see Comanor and Wilson (1979), McAuliffe (1987), and Ekelund and Saurman (1988).

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First, I introduce some institutional background. There are at least five sources of regulation of advertising: the Federal Trade Commission; other federal agencies, such as the Food and Drug Administration; state attorneys general; industry self-regulation, under the auspices of the National Advertising Review Board (NARB) or the National Advertising Division (NAD) of the Council of Better Business Bureaus (American Bar Association 1989); and private civil litigation under the Lanham Act and other statutes or common law doctrines.

Of all of these regulatory bodies, the FTC is now the only organization with responsibility for advertising regulation that explicitly considers economics in its decisionmaking. As Buc (1989, p. 29) says, "the consumer protection work at the FTC, unlike any other consumer protection work at any other agency, federal or state, is carried out in a context that is informed by and affected by the antitrust and economics work of the Commission." The extent to which the FTC does rely on economics may come as a surprise to some who are not familiar with the internal workings of the agency. For 1989, there were 10.7 economist workyears assigned to Consumer Protection issues, out of 60 total economist workyears; the number has been as high as 16.4 (American Bar Association 1989, Table 2, p. 168). Economists are involved in examining all advertising cases at the FTC. Moreover, economists make independent recommendations to the Commission regarding these cases. While the current regime at the FTC may utilize less formal input from economists than has been true in the recent past, nonetheless, economists do participate in all cases. There is an equally strong role for economics in rulemakings, and the inputs of the economists, including cost-benefit analyses, are part of the public record for these proceedings.

To the extent that it is efficient to regulate advertising, it is desirable to have economic input into the process. Therefore, one recommendation is that either the other regulatory bodies should adopt a more explicit use of economics or the FTC should be given more responsibility for such regulation (see Calvani 1989). In what follows, I will from time to time indicate ways in which FTC regulation differs from regulation by other agencies.

Regulation of Price Advertising

"Deceptive pricing" is the advertising of prices that are not actually common transaction prices. Ads like "Regularly $50, now $25" or "$50 elsewhere, here $25" might be considered deceptive unless "enough" sales had occurred at the $50 price, where enough can be

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defined in various ways. The FTC seldom if ever brings deceptive pricing cases, and has not for many years. This is because the Commission generally recognizes that any advertising that stresses prices is likely to ultimately lead to lower prices for consumers.

If a product usually sells for $25 and the firm advertises it as being normally $50, on sale for $25, this ad will have no immediate benefits. That is, consumers are not given any new options, since $25 is the normal price. This is why such ads are sometimes challenged as being deceptive. Nonetheless, the process started by this ad will likely lead ultimately to lower prices for consumers. Price conscious consumers will be drawn to this firm since it is stressing price in its ads, and all consumers will be given some information about the distribution of prices in the marketplace. Other firms will be forced to respond to the ad, and some will respond by actually lowering prices below their current level, in part because of the price competition started by the information conveyed in the ad. Ultimately, even the firm initially advertising a price of $25 may be forced to sell for $20 as price advertising spreads throughout the industry. On the other hand, if the ad is initially stopped as being "deceptive," information about low prices is less likely to spread.

One general point, which will recur in the analysis, is that in analyzing advertising it is important to distinguish markets that are in equilibrium from those that are not. For a market to be in disequilibrium implies some informational failure, and advertising, by providing information, can move markets toward equilibrium (Ekelund and Saurman 1988). For example, a market may be in a disequilibrium with prices above the equilibrium level. Advertising may be an effective method of moving from the high priced disequilibrium to the low priced equilibrium. During the transition some ads may appear deceptive, but stopping these ads may have the effect of retarding the movement toward the new equilibrium. Schwartz and Wilde (1979, p. 667) indicate that high price equilibria are unstable, so that advertising of better prices or terms can destroy a "monopoly" equilibrium in an industry.

Though the FTC does not generally bring cases involving deceptive pricing, the states often do. There are two types of cases. One allegation is that goods are not truly available at the advertised price. A second argument is that prices are deceptive because consumers view price as a signal of quality and a fictitious price will mislead consumers into overestimating the quality of the good. I consider each type of case.

Lack of Availability

The recent National Association of Attorneys General (NAAG) airline pricing guides and efforts by NAAG to regulate auto rental

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prices and disclosures both deal with availability at advertised prices. In both instances, the allegations are that the products are not available at the advertised price. These cases will likely have the ultimate effect of raising prices paid by consumers by reducing incentives of sellers to advertise, and thus offer, low prices. The airline guides deal with, among other issues, low fares that are available only on a limited basis. The auto rental guidelines deal with issues including the "collision damage waiver." In both cases, the ads are true but, according to the NAAG, incomplete. However, discouraging these ads is likely to lead to higher prices in both industries.

For example, consider the airlines. New reservation systems are quite sophisticated and enable airlines to track reservations on each flight on a real time basis. If a flight is not selling as well as expected, it is possible for the airline to offer more discounts on that flight. Thus, advertised low prices may be available only on an irregular basis. However, if consumers call and ask for such fares, travel agents will be able to determine which flights have low fares available. If advertising of these fares is outlawed, then airlines will have reduced incentives to offer such low rates.

A recent Symposium on the NAAG Guidelines indicates the nature of the debate. A defender of the NAAG policies (Hanaway 1989) argues about particular prices and about protection from "unfair and deceptive advertising." An argument against such regulation (Versfelt 1989) points out that the NAAG Guidelines increase the burdens of price advertising, "so that price competition decreases and prices rise." It may be that consumers would be willing to pay higher prices for car rentals and airfares in order to avoid advertising they view as "deceptive," and it may be the job of their political representatives (either in the state attorneys general offices or at the FTC) to make this choice for them. However, it should be an informed choice, and without some explicit consideration of economics, decisionmakers will not be aware of the tradeoffs.

Price as Information

The other argument regarding deceptive pricing is that consumers may be misled about quality. This was the issue in the recent consent decree signed by Sears in New York, where Sears promised to reduce its advertising of sales and specials. There are two problems with cases based on this argument. First, there is no persuasive evidence that consumers are deceived by these ads. Second, there are large social costs from preventing this type of advertising, even if there is deception.

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There is a substantial marketing literature examining the effects of price ads on consumer expectations of quality. This is not an appropriate place to summarize this literature, particularly as there are two recent summaries available. Both indicate that the results of the empirical literature examining this issue are at best inconclusive. Zeithami (1988, p. 2) argues that "research on these concepts [price, quality, and value] has provided few conclusive findings." Similarly, Monroe and Krishnan (1985, p. 229) indicate: "We have not been able to identify conceptually or empirically when buyers will infer product quality on the basis of price. . . . Considering previous studies individually, it is troubling to find such inconsistency in the results across studies."

Others are even more skeptical of the possibility of price advertising's causing consumer harm. Liefeld and Heslop (1985, p. 874) find that "consumers are very suspicious of price claims made in a sale situation and discount their perceptions of the ordinary price by amounts which were in this case excessive, leading them to seriously understate the true ordinary selling price." Blair and Landon (1981, p. 68) conclude, "The effects found in this study imply that market injury from false reference claims is possible but not guaranteed." Thus, the evidence for the existence of consumer deception associated with price advertising is highly uncertain.

Even if some consumers are deceived by some comparative price advertising, the costs of limiting or forbidding such advertising are likely to be substantial. For example, consider the issue of the volume of sales that must occur at some price before it can be advertised as the "regular" or "normal" price, a common feature of attempts to regulate deceptive pricing. A firm might engage in predictable seasonal promotions, such as sales of tires or white sales of household furnishings. If consumers are aware that such sales occur, they will refrain from buying except during the sale period. Thus, there will be relatively few units sold at "regular" prices, even though these prices may be commonly available. In such circumstances, any attempt to limit advertising would have one of two affects. The firm might be forced to offer less frequent specials so that more items would be sold at the normal price, a course of action that would clearly harm consumers. Alternatively, the firm might cease advertising the regular price, but if, for example, this price is comparable to other prices in the market, then consumers would be denied valuable information.

Moreover, even if consumers are deceived, there is no evidence that they are harmed. In one experimental study (Urbany et al. 1988), which did find consumers deceived by price ads, it was nonetheless

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found that there was no measurable injury even to those consumers who were deceived. The authors found that there is some effect even of unrealistic exaggerated prices and that "consumers can be skeptical of advertised sale offers but can still be influenced by them." Nonetheless, even given this strong finding of deception, it was still determined that there is "no significant difference between the ending bank balances" of subjects in groups with and without advertised reference prices.

Interestingly, the authors attribute their results regarding deception in part to the fact that their subjects may have believed that it is illegal to exaggerate reference prices, and that the law is strictly enforced. This indicates that incomplete enforcement of deceptive pricing laws may actually be harmful. If consumers are normally skeptical of such ads, then they cause little if any injury. However, partial enforcement may lead consumers to overestimate the level of enforcement and relax their normal skepticism. This will be particularly likely if there is wide publicity given to the few enforcement efforts that do occur. This is itself likely, given the political orientation of many state enforcement officials.

Schmalensee (1978) presents a model where there may be losses to consumers from deceptive advertising, and where losses are greater as consumers believe ads. Here we argue the converse: losses may be greater as consumers believe that there is enforcement of rules against deception. Viscusi (1985) has found that consumers who believe that the government is enforcing safety standards at a greater level than is true may be "lulled" into accepting greater risk, and it is plausible that similar results apply to advertising.

The basic problem with policies against deceptive pricing is that, in general, it is discount firms and firms stressing price that engage in these promotions. As a result, any effort to limit such advertising is likely to lead to higher prices in the market. As Robert Pitofsky (1977, p. 688), a former FTC Commissioner and an advocate of rigorous enforcement of consumer protection regulations, has argued, "As long as consumers are accurately informed of the offering price, they can make sensible decisions, and the transactions may still be at prices lower than could be obtained at most other outlets in the marketing area." Pitofsky views reduced enforcement of deceptive pricing claims as a gain for consumers. This is especially true since the possible gains from such enforcement are doubtful and speculative, while the costs are obvious and substantial.

Regulation and Types of Goods

A public authority charged with advertising regulation has a substantial amount of discretion. The nature of language is such that

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almost any claim could be interpreted as being deceptive or misleading under some readings, so that there are a large number of cases that could be brought (Craswell 1985). Moreover, most cases brought by the government are settled through consent decrees, so that there is little litigation over the issue of deception.[4] In this circumstance, it is important for regulatory officials to have a strong theoretical basis for bringing some cases and not others. Economics provides this theoretical basis. Economists argue that the basis for regulation should be the effect of claims on consumer welfare, and economics provides a framework for determining which types of ads are more likely to reduce consumer welfare.

Economic analysis indicates that there are three types of characteristics of goods with respect to advertising. These are called "search," "experience," and "credence" characteristics.[5] Search characteristics can be determined before the associated goods are purchased; an example is the color of a suit. Goods must be purchased and used before experience characteristics can be evaluated; an example is the cleansing power of a soap. For credence characteristics, the consumer may never know if the characteristic exists, even after purchase; an example is unnecessary repair to a TV (or unnecessary surgery), for the TV (or the body) will work afterwards even if the repair was unneeded.

Given this classification, some principles of regulation of advertising are instantly apparent. First, for search characteristics, there is no need for regulation. Consumers can immediately determine if the good possesses the advertised characteristic, and cannot be deceived. Moreover, since this is so and firms understand that it is so, there is no incentive for deceptive advertising with respect to these characteristics. Transaction price is a search characteristic (i.e., consumers will know the transaction price before purchase), which is why some attempts by the states to regulate advertising of transactions prices, discussed above, are unneeded and counterproductive. Second, for inexpensive goods, there is little cost to deception with respect to experience characteristics. The consumer will be deceived at most one time with respect to such goods, and therefore in general losses

[4]This may be because of the high reputation cost to a firm from being named as engaging in "deception" (Peltzman 1981). Mathios and Plummer (1989) generally find that firms that contest FTC orders and lose end up with greater capital losses than firms that consent without a contest, although if firms are rational they should have chosen the response that would minimize the losses.

[5]For the discussion of search and experience goods, see Nelson (1970, 1974). For credence goods, see Darby and Karni (1973). For an application to regulation of advertising, see Jordan and Rubin (1979).

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will be small.[6] Regulators should concentrate on relatively expensive experience goods and particularly on credence goods.

This analysis has additional implications. In particular, it points to the importance of reputation as a protection against deception and to the importance of advertising in generating a reputation (see Rubin 1990, chap. 8). Economists had long been puzzled by apparently non-informative advertising. Nelson showed that in certain circumstances the very existence of advertising would itself provide information. Advertising would only be worthwhile if it led to repeat sales for experience goods, but firms could expect repeat sales only if the product were of sufficiently high quality. Therefore, the willingness of a firm to spend money on advertising would itself provide information to the market that the firm expected repeat sales because it believed that its products were of high quality.

Problems of assuring or guaranteeing quality arise in many markets. The problem was first analyzed by George Ackerlof (1970) in a famous article dealing with "Lemons."[7] A lemons market is defined as a market that fails in that only low-quality items are sold, even though consumers would be willing to pay high prices for high-quality items. Three conditions are necessary to generate a lemons market. First, consumers must be unable to determine quality before purchase. Second, it is necessary that higher quality goods cost more to produce than lower quality. Finally, there cannot be a credible way for a firm to guarantee quality. If these three conditions are met, then the market mechanism may break down. This will happen because no firm will be able to convincingly promise high-quality items. As a result consumers cannot be sure of obtaining the higher quality and so will not pay the higher price for quality items. Thus, even though consumers would be willing to pay a higher price in order to obtain quality, there will not be an effective way in which this desire can be satisfied. It is in this sense that the market may malfunction.

The lemons problem identified by Ackerlof exists only if firms cannot convincingly communicate to consumers the level of quality in their products. If firms can produce high-quality products and convince consumers that they are doing so, then the market failure disappears. There is a substantial literature devoted to the economics of information that demonstrates ways in which markets can and

[6]In Schmalensee (1978) there are losses to consumers from deceptively advertised experience goods, with losses increasing as consumers believe ads.

[7]The "lemons" in the title refers to the used car market example Ackerlof discussed in the article. Under the conditions in the article, only "lemons" will be sold in this market.

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do solve the problem (see Ippolito 1986). The implications of this literature for advertising regulation have not been fully explored.

Klein and Leffler (1981) explicitly related Nelson's discussion of advertising to Ackerlof's lemons problem. They showed that the mechanism identified by Nelson and related mechanisms could be used to solve the lemons problem. Investments in non-salvageable firm-specific capital (capital that would become worthless if the firm were to shut down) would serve to guarantee quality since the firm would lose the value of these investments if consumers dissatisfied with low-quality products forced it to shut down by withdrawing patronage. In addition to advertising, including endorsements by celebrities, such capital includes investments in establishing trademarks and brand names, and investments in physical assets such as signs and decor.

In two articles, Shapiro (1982, 1983) showed that firms could invest in establishing a reputation for being quality producers and that what might appear to be excess profits would actually be a return on this investment. Generalizations of these results were provided by Allen (1984) and by Kihlstrom and Riordan (1984). Milgrom and Roberts (1986) showed that the results were robust to allowing price variation, and that in this situation price itself could sometimes serve as an additional signal of quality. Lynch, Miller, Plott, and Porter (1986) provided an experimental test of these models.[8] They found that it is possible to generate lemons markets in laboratory settings, that truthful advertising will eliminate problems associated with such markets, and that reputations will sometimes serve to eliminate these problems.

Arguments regarding incentives to produce quality are routinely accepted in the economics literature. For example in a recent article on trademarks Landes and Posner (1987, p. 270) indicate that "creating such a reputation [for high quality] requires expenditure on product quality, service, advertising and so on." This article also discusses the importance of creation of property rights in trademarks and brand names. It is only if such property rights are created that firms have proper incentives to maintain quality.

Producing high-quality products will not be worthwhile unless the firm is able to convince consumers that its products are indeed of high quality. The major mechanisms available for providing convincing evidence of quality are investments in firm-specific, non-salvageable assets. The most important investments of this sort are in advertising

[8]Lynch and Porter were FTC economists when this research was undertaken.

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the brand name of the product, for such investments are non-salvageable in that they become worthless if the firm ceases to exist.

This means that product reputations are an important guarantor of quality. One potential function of agencies regulating advertising is to prevent firms from exploiting this brand name capital. For example, a firm might suffer business reverses and plan on leaving a market. However, if the firm has established a reputation in this market, it may be worthwhile for the firm to draw down this reputation capital by offering relatively shoddy goods and thus implicitly deceiving consumers. It might be worthwhile for regulatory agencies to police the market to prevent this sort of behavior, although by the time the deception is detected the firm may have exited.

Once it has been decided to confine analyses to particular types of ads and product characteristics, however, the problem is not solved. Any deceptive ad will deceive some and inform others. Therefore, a balancing test of some sort is required in order to determine if a case is worth bringing. Recently, an economic analysis of deception has provided exactly this sort of balancing test: "an advertisement is legally deceptive if and only if it leaves some consumers holding a false belief about a product, and the ad could be cost-effecitvely changed to reduce the resulting injury" (Craswell 1985, p. 657). This criterion for deception essentially says that an ad is deceptive only if the costs of changing it are less than the benefits. Included in the cost of changing the ad is any information lost by those consumers who were not deceived by the initial ad and who would find a proposed substitute less informative. This cost-benefit criterion is a useful guideline for exercise of prosecutorial discretion, and a guideline based on an explicitly economic analysis.

True Claims about Characteristics Other Than Price

The FTC generally allows any advertising which is truthful, with only a few exceptions, such as mandated disclosure, discussed below. The FDA, on the other hand, greatly restricts even truthful advertising. For example, as of now, advertising of true claims for prescription medicines are greatly restricted by the FDA. If a direct-to-consumer ad for a prescription drug mentions both the name and the use of the drug, it must also provide an extensive discussion of contraindications and side effects. These disclosures are commonly pages of small print. As a result, prescription drug ads generally indicate either the name of the drug (usually for price comparison purposes) or that one should "see your physician" for some unnamed treatment for particular symptoms. There are exceptions, such as the current print

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ad campaign for Rogain, Upjohn's prescription baldness cure. These ads do contain the complete set of warnings in small print. TV ads for prescription drugs are effectively forbidden by the disclosure requirements.

There are both health and economic benefits to be expected from prescription drug advertising, and the FDA is not providing net benefits to consumers by effectively forbidding such ads (Masson and Rubin 1985, 1986). Direct-to-consumer advertising of prescription drugs could provide at least three sorts of health benefits. First, consumers may suffer symptoms of a treatable disease without realizing that these are symptoms. An example is the thirst associated with diabetes. Advertising of particular drugs associated with treatment of diabetes could alert consumers to this relationship.

Second, consumers may know that they have some condition but not know that it is treatable. Upjohn's baldness drug or Merrell Dow's nicotine gum[9] are examples of prescription drugs that many consumers might choose to buy if they were made aware of their existence and properties through a well-designed advertising campaign.

Third, some drugs may have less undesirable side effects than others for the same disease, and advertising could inform consumers of this fact. For example, some antihistamines are less likely than others to cause drowsiness, and some antihypertensives are less likely than others to cause impotence. Advertising of these drugs could provide benefits to consumers both by reducing side effects and, in some cases, by improving treatment for consumers who have ceased taking medication because of the side effects.

In addition to providing health benefits, increased advertising would lead to lower prices for prescription drugs. Advertising could inform consumers of substitution possibilities and thus put pressure on prices. As of now, many retailers advertise prices of drugs by name, but they cannot indicate the use of the drug. Some consumers may recognize that the advertised drug is the one that they are taking, but others will not and will not be able to benefit from the low prices.[10]

Recently, nine major drugs that may shift from prescription to over-the-counter (OTC) status in the next few years have been identified (Waldholz 1989). Studies of such reclassification in the past indicate

[9]It is particularly ironic that cigarette advertising is common, but advertising of a remedy is very difficult.

[10]For some studies of the effect of advertising on prices, see Benham (1972), Steiner (1973), Marvel (1976), Farris and Albion (1980), Kwoka (1984), and Haas-Wilson (1986).

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that they could provide large benefits to consumers (Temin 1983). If it is felt that moving to OTC status would not be desirable even for these drugs, a middle ground would be advertising to consumers of the benefits of the prescription drug. In this way, although consumers would still need to rely on physicians in order to receive the drug, consumers themselves would have more voice in deciding to use the medicine. The FDA denies this option through its policy of forbidding advertising of Rx drugs.

The FDA has advertising jurisdiction over some aspects of OTC drugs and also over some aspects of food advertising, particularly with respect to health claims. The FDA is sometimes unwilling to allow true claims about even OTC drugs. It is continuing its policy of discouraging truthful advertising of the large effects of aspirin in reducing heart attacks, in spite of overwhelming scientific evidence about the truth of this claim (Waldholtz 1989). In recent years, the FTC, which shares jurisdiction in a complex way with the FDA (discussed in Calfee and Pappalardo 1989), has suggested more leniency in allowing true advertising claims than has the FDA. Part of this disagreement is because economists at the FTC focus on benefits as well as costs of advertising and therefore are more likely to advocate allowing true claims.

An issue that arises in discussing "true" claims is the standard of truth. Many claims about product characteristics are uncertain and their validity is probabilistic. Many health claims are of this sort: it is not certain whether or not some claim is true. The proper standard of proof in this case is a cost-benefit test. That is, health claims would be allowed if the expected value (in terms of health outcomes) is positive. If there is some chance that a drug might save lives and if it has relatively insignificant side effects, then a claim might be allowed even if there is a relatively small probability of its being true. The FDA often seems to require a higher standard, under which a claim would not be allowed unless there were perhaps a 95 percent chance that it is true. This would deny consumers much valuable information (Calfee and Pappalardo 1989).

Deception by Omission and Mandated Disclosures

So far, I have dealt with deception in the form of false statements. However, a further class of acts that are sometimes viewed as deceptive are statements that are true but incomplete in some allegedly material way. For these cases, regulatory agencies impose various remedies. Sometimes sellers are held to commit deception by omission. In other cases, there is some mandated disclosure associated

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with an ad. These mandated disclosures may be required "across-the-board" for all advertising of a product, or may be "triggered" by some claim (see Beales, Craswell, and Salop 1981).

An example is the recent case filed by several states against Campbell's. The allegation is that Campbell's ads for its soups were deceptive by omission. Campbell's advertised that its soups were healthy because they contained fiber. The states alleged deception because the ads did not disclose other, negative health information regarding the products. Several states have recently signed an agreement with Campbell's under which the firm will pay $315,000 and stop making certain health claims (Koenig 1989).

An example of mandated disclosure is the set of warnings on cigarette packs and in cigarette advertising. These disclosures are across-the-board since any ad for a cigarette requires a health warning. Triggered disclosures are disclosures required only if some other claim is made. For example, under the Truth-in-Lending Act, whenever a statement about interest rates is made, there must also be statements about the amount of down payment and the number and size of monthly payments.

While such disclosure remedies are common, economic analysis casts doubt on their general utility.[11] There is much support in the recent literature for the proposition that, as long as deception is not allowed,[12] there are incentives for sellers to disclose even the negative attributes of their products. This is because consumers will rationally assume that any advertisement which omits a critical piece of information (say, the durability of a product) will imply that the value of that attribute for that product is at the lowest level. As a result, producers of products with quality levels above the minimum will have incentives to advertise this fact, and in the limit the market will provide complete information. The models that prove this result are quite general, and the result seems robust.[13] Indeed, this is probably the most significant result that had not been considered in the earlier literature on deception.

[11]It is useful in many cases for government to devise an appropriate metric, or scoring system, for measuring some attribute. Truth in Lending requires the use of the Annual Percentage Rate as the interest rate; the "R-value" rule requires the use of R values for measuring the effectiveness of insulation. See Beales, Craswell, and Salop (1981, p. 523).

[12]This restriction has little force because if deception is allowed, then disclosure rules will serve no function because sellers will deceptively disclose.

[13]This result has been shown in Grossman (1981), Milgrom (1981), Jovanovic (1982), and Milgrom and Roberts (1986). Jovanovic shows that in many circumstances there will actually be too much information disclosed. For a summary discussion, see Spulber (1989, pp. 449–55).

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At first, this proposition may seem unrealistic. However, consider price. The price of a product is a negative characteristic; we would all prefer to get products free. Nonetheless, sellers do routinely advertise prices. As the theory would predict, the advertising is driven by those firms with the lowest prices (that is, the least bad value for a negative attribute). Higher priced sellers may not advertise price at all, but when a consumer observes a product being advertised with no price information, the normal assumption is that it is not a discount price, and may be a high price.

Another example is the advertising of tar and nicotine content of cigarettes (Calfee 1986). In the 1950s (and perhaps earlier) consumers began to fear the health effects of smoking, and began to believe that tar and nicotine were undesirable.[14] As a result, cigarette companies began to advertise the levels of tar and nicotine, with the advertising being stimulated by those brands with the lowest levels. The process was greatly slowed down in 1959 when the FTC virtually stopped such advertising. Nonetheless, there was a substantial incentive for advertisers to publicize the negative aspects of their products, as long as some brands had less negative characteristics than others.

From a theoretical perspective, the process of advertising negative characteristics is the obverse of the lemons problem, discussed above. In a lemons market, information is not verifiable, and as a result only low-quality products are sold because sellers cannot convince buyers to pay for high-quality products. The process discussed in this section requires some form of verification, but the theory indicates that if there is some method of checking on claims, then sellers will offer complete information about both high- and low-quality products. Indeed, the analysis is just the mirror image of the lemons analysis. That analysis shows that if the lemons problem can be solved, sellers of high-quality products will have incentives to reveal that their products are indeed of high quality. But this means in the limit that any seller of a product which is of any quality above the minimum will indicate quality. Consumers may then assume that sellers who do not disclose quality have products of minimum quality, and the informational problem is solved.

In making policy with respect to disclosure, it is important to distinguish between equilibrium and disequilibrium situations. At equilibrium, there will be a substantial amount of disclosure in markets. However, many interesting policy issues occur in periods of

[14]The process described here generally requires at least some consumer information regarding the negative characteristic. However, regulation is unlikely to occur in an environment where there is a total lack of such knowledge.

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disequilibrium. Decisionmakers in regulatory agencies may observe this disequilibrium and formulate incorrect policies. It is possible for these policies to lead to consumer injury by delaying or preventing movements toward equilibrium that would occur. The disequilibrium may be with respect to advertising, but it may be in terms of actual product characteristics as well. Advertising affects sales at current prices of existing products. It also influences characteristics and prices of products that firms will offer in the future. Advertising changes future product characteristics because a firm will only produce products or establish prices that it expects to be able to advertise. Thus, interferences with the ability of firms to advertise product characteristics may also have adverse effects on the actual menu of products offered in the market.[15]

A disequilibrium is likely in a market that has changed in some way. Possible changes are in product characteristics, in information about products, or in consumers' tastes. Because there has been some change, existing products will not perfectly satisfy consumers' desires. Nonetheless, producers of those products that are closest to satisfying new desires will have an incentive to advertise this fact. In such circumstances, some advertisers may initially offer partial information to consumers. At some point other advertisers will compete by offering more complete information, and others may compete by further changing the product to reflect changed tastes. The ultimate equilibrium will occur with relatively full information and with the optimal set of products being offered. However, if the process is stopped because regulatory authorities think that the partial information is deceptive, then the full information equilibrium will never be reached, and the best set of products may not be sold.

A good example is the history of advertising of the fiber content of breakfast cereals (see Ippolito and Mathios 1990). This advertising was contrary to the FDA's policies regarding advertising of health claims for foods. Nonetheless, once the advertising began, cereals with higher fiber content increased sales, and new cereals with increased fiber were marketed. Moreover, during the same period, levels of sodium and fat in cereals also decreased. Advertising did a more effective job of spreading this information to consumers than had governmental attempts at communication.

Another example of a change in product characteristics caused by advertising is cigarette advertising, mentioned above. When advertising began, tar content of filter cigarettes was virtually no lower

[15]For a discussion in the context of health claims, see Calfee and Pappalardo (1989, p. 29).

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than that of regular cigarettes. Nonetheless, over a short period (1957–59) as a result of heavy advertising of tar and nicotine content, levels (weighted by sales) fell by 40 percent. The first cigarettes to be advertised had perhaps only marginally lower tar levels than other brands, and when regulators looked at this advertising they ultimately stopped it as being deceptive. The long-run effect of the advertising before it was stopped was to actually change product characteristics. As sellers competed by advertising tar and nicotine levels, some producers found it worthwhile to reduce levels in order to be able to advertise lower amounts. Other firms responded, and the ultimate result was reduced levels of tar and nicotine. The benefits to consumers of this dynamic effect of the advertising greatly outweighed any potential harmful effects from any alleged initial deception.

Today we are at the beginning of a new period in advertising. Because of increased health concerns by consumers, producers of foods are increasingly advertising the health benefits of their products. Since such advertising is relatively new, we are now in a disequilibrium situation, with products not yet reformulated to account for the new set of tastes. Therefore, advertisers may not yet be providing the full disclosure that we can expect at equilibrium. Such advertising is regulated by the FTC, the FDA, and the states. The FTC generally allows truth as a defense, while the FDA bans much truthful advertising. In the case of health claims for foods, it is important to consider the long-run equilibrium-creating effects of such advertising.

Regulators may be risking the benefits of long-term dynamic competition by focusing on short-term deception. For example, consider the Campbell's Soup case. If the states' claims are true and Campbell's does have some unhealthy ingredients, even in the absence of regulation we could confidently rely on some one or more of its competitors to advertise a soup that does not have these ingredients. If no one makes such a product now, we can confidently rely on the incentive of someone to begin making the product and advertising it in response to Campbell's ads. The result of the competition, as in the case of prices or of tar and nicotine content, would be to benefit consumers, in this case by ultimately leading to production of healthier products.

Moreover, such competition can be remarkably rapid. For example, recently some food producers began advertising that their products had no cholesterol, a true claim. This advertising sensitized consumers to the dangers of saturated fats. Some advertisers did not indicate that the products were formulated with palm and coconut

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oils, and that apparently these oils have many of the harmful effects of cholesterol. Other advertisers, however, began to advertise exactly this: "Our product has no cholesterol *or tropical oils*." This campaign was in large part financed by the soy bean industry (Purushothaman 1989). Within a very short time, this claim became common.

Moreover, not only did products that had originally not contained tropical oils advertise this, but, as the theory would predict, other manufacturers began to reformulate their products without these oils; firms (including Kellogg, PepsiCo, and others) removed tropical oils from their products. Imports of palm oil fell 44 percent from 1986 to 1987. Had a regulatory authority stopped claims of "No cholesterol" when they began, then the process of advertising "No tropical oils" might well have been delayed or stopped because it would have been more difficult to sensitize consumers to the dangers of saturated fats of all sorts.

The Center for Science in the Public Interest (CSPI), in its comments on a proposed FDA rule regarding health claims on food labels (and also in advertising) ignores the possibility that advertising of health claims might be an evolutionary process (Jacobson 1987). The CSPI is in general hostile to such claims, even if they are true.[16] It suggests, among other things, that producers making health claims should be required to disclose all negative information as well, even though CSPI admits that "in most cases, the food manufacturer will choose not to carry a health claim if required to make such a disclosure" (Jacobson 1987, p. 8). Thus, the CSPI would prefer no health claims to partial claims and is not willing to allow for increased disclosure as advertising drives products and information to a new equilibrium. The result of adopting the policy advocated by CSPI would be not only a reduction in advertising of health claims but also a reduction in the number of relatively healthy products available since firms would not make products that they could not advertise.[17]

There is an additional danger from mandated disclosure, well illustrated in the food context. Our knowledge of nutrition and health is now sketchy and we as a society are continually learning more. For

[16]The recommendation of the petition is a quote from the *New York Times*: "If the Food and Drug Administration cannot write better rules, it had better continue the ban on health claims by writing none" (Jacobson 1987, p. 4).

[17]As an aside, note that the CSPI also recommends an extremely high level of substantiation for health claims. They would require "general agreement among qualified experts," rather than "substantial" scientific evidence. This higher level of substantiation would result in greatly reduced numbers of such claims, since it takes time to reach general agreement (Jacobson 1987, p. 8). This higher level is equivalent to denying many claims that pass a cost-benefit test, as discussed above.

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example, we now know (or believe) that certain saturated oils are similar to cholesterol in effect. However, if there were mandated disclosures for *cholesterol* content, then it might have been difficult for advertisers to begin advertising "No tropical oils." Apparently, it is difficult for cigarette manufacturers to advertise carbon monoxide levels and to compete on the basis of less of this chemical because of current disclosure regulations (Calfee 1986). Policy should be clear in allowing advertising to change as knowledge changes if disclosure is mandated.[18]

Remedies

Some remedies for deception that have been used or proposed are, in increasing order of severity, cease and desist orders, corrective advertising, consumer redress, and fines. In order to evaluate these remedies, it is useful to set forth a theory as to the goal of the remedy. The ultimate goal, of course, is maximization of consumer welfare and this can be achieved if it does not pay for firms to engage in acts that are likely to lower welfare. Policies should therefore be aimed at making sure that harmful acts do not pay.

What is relevant is that a remedy provide the correct amount of deterrence. For the types of activities discussed in this paper, it is possible to have either underdeterrence or overdeterrence. Underdeterrence is the situation in which penalties are too low, so that too much deception occurs. Overdeterrence occurs when penalities are too high. While it may appear that it is impossible to have "too little" deception, it is nonetheless possible to overdeter deceptive advertising. This is because, as indicated at many points in this paper, the line between deception and useful information is not always clear, and one result of overdeterring deception through excessive penalties would be the suppression of provision of information that many consumers will find useful.[19]

[18]Although this paper deals with advertising, a disgression on labeling is useful because Congress has recently passed the "Nutrition Labeling and Education Act of 1990," which deals with some of the issues discussed here. The act requires provision of information on "total fat, saturated fat, cholesterol, sodium, total carbohydrates, complex carbohydrates, sugars, dietary fiber, and total protein" (sec. 2). Note that this list freezes in law the current understanding of nutrition, even though this understanding is changing at a rapid rate. (The act does allow the Secretary of the Department of Health and Human Services to change labeling requirements.) For health claims to be allowed, there must be "significant scientific agreement, among experts" (sec. 3) which, as indicated above, is too restrictive a standard.

[19]On the general issue of optimal deterrence, see Becker (1968), Posner (1986, chap. 7), and Polinsky and Shavell (1979). For a discussion of overdeterrence of "white collar crime," see Rubin and Zwirb (1987); advertising is discussed on pp. 904–5.

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The traditional FTC remedy for deception was a cease and desist order that required the firm to stop the offending ad. In general, such orders include language forbidding the practice in question in the future and are enforced by fines. This remedy is relatively mild and therefore unlikely to overdeter, although there is evidence dealing with the stock market effects of these orders that indicates that they may be much more costly than is apparent (Peltzman 1981, Mathios and Plummer 1989). The Magnuson-Moss FTC Improvements Act of 1975 has given the Commission broader powers, including the power to enforce rules with monetary penalties and also the power to seek redress for fraud under some circumstances. The Commission relies heavily on the theory of optimal deterrence in computing fines, and the economists are deeply involved in these computations.

For most deception cases, the Commission still relies on cease and desist orders. In most cases, this is the appropriate remedy. As indicated above, a determination that an ad is deceptive is difficult, and many ads may be innocently written and later interpreted as being deceptive. Even when using their best efforts, firms will sometimes err and produce an ad that is later held to be deceptive. Since this is so, any penalties more severe than an order to stop could easily cause firms to reduce the amount of potentially actionable material in their ads; this would be done by simply reducing the information content of the ads, and relying instead on puff or image advertising.

The Commission has also reduced its reliance on corrective advertising. This is appropriate since most evidence indicates that the effects of advertising are short lived;[20] therefore, the effects would likely have dissipated before the corrective ad would appear. The only purpose of a corrective ad would be additional deterrence. But if this goal is desired, it can be achieved more efficiently through direct methods.

The FTC has powers to name advertising agencies as well as advertisers in complaints for deception. If agencies have skills in assuring that ads are not illegally deceptive, then finding them liable would seem to increase the ability of the Commission to deter deception. However, advertisers have contractual agreements with agencies. Therefore, if advertisers want agencies to help them comply with the law, they can contract for these services. It would even be possible for an advertiser to contract with an agency for indemnification by the agency in the event of liability. More generally, it would not be efficient for agencies to determine the truth or degree of substantiation for each ad they produce. Imposing liability would

[20]See Ehrlich and Fisher (1982), McAuliffe (1987, p. 69), and Thomas (1989).

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increase the costs of advertising since agencies would be forced to make an independent investigation of each ad.

Holding agencies liable would perhaps increase deterrence, but as we have seen there is no evidence that deception is being underdeterred, and some fear of overdeterrence. Moreover, if it is desired to increase deterrence, then this can be done directly—for example, by giving increased publicity to Commission findings of deception. Since orders with respect to agencies would cover ads in many areas and for many types of products, overdeterrence is particularly likely. Therefore, there is no general argument for finding agencies liable. For many years, the Commission had not named agencies, for essentially this reason. Recently, the FTC seems to have changed this policy (King 1990), but this change is unwise. Advertising agency liability adds to costs and provides no benefit.

For those acts that are to be punished by a fine, it is important to use the correct fine. First, it is appropriate to restrict the use of fines to true fraud (deception where the firm is consciously attempting to deceive) since this reduces the chances of overdeterring provision of true information. Second, the correct fine is one that is just equal to the (expected) harm caused by the deception. Such a fine will provide firms with the correct incentives. Since some who engage in deception will not be caught, the actual fine must be greater than the observed harm for those who are detected. If, for example, one offender of three is detected, then the fine must be equal to three times the harm caused by those who are punished. In this case, the probabilistic value of the fine to someone considering violation will just be equal to the harm his act will cause, and the result will be that firms will not undertake acts that impose net harms on consumers. As indicated above, this is the exact goal of deterrence. (For a discussion of computation of probabilities, see Feinstein 1990.)

Conclusion

The most harmful regulatory policy toward advertising is the suppression of true information.[21] Consumers have greatly benefitted by increased price advertising as a result of various policy initiatives. The FTC, both in its enforcement policies and in its submissions to other regulatory bodies, is increasingly encouraging disclosure. Other regulatory bodies (the states with respect to true price claims, the FDA with respect to true health claims) have not fully absorbed this lesson. While it has been long kown that true information about

[21]This conclusion is supported by Schwartz and Wilde (1979), and by Beales, Craswell, and Salop (1981).

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price is useful, the newer literature indicates that this point is more general, and that *all* true information should be encouraged.

There are powerful incentives for disclosure of even adverse information. Firms will disclose approximately optimal amounts of information, and markets will use this information and provide the correct set of products. Rules mandating disclosure are generally unnecessary, and often harmful. Inefficient policies may limit the amount of information that consumers will receive. Moreover, inappropriate rules regarding disclosure can thwart the tendency of markets to provide the correct set of products for consumers. No regulatory agency has yet absorbed this lesson.

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The War on Drugs as Antitrust Regulation

Gary M. Anderson and Robert D. Tollison

Some Neglected Economic Consequences of the War on Drugs

Many economists have employed their analytical tools to examine the effects of the current War on Drugs, but these past efforts have concentrated on issues like the social cost of productivity lost to the economy as a result of drug use compared to the costs of drug prohibition, the effect of illegal drug use on poverty rates, and the costs versus the benefits of drug illegality.[1] While these are important issues, economists have tended to neglect the "industrial organization" of the illegal drug "industry," and the effects the War on Drugs has had on the structure of that market. We offer some suggestions for how such a study might proceed.

Drug Laws as Antitrust Regulation

The ostensible purpose of anti-drug legislation is to reduce the supply of drugs available to drug abusers. However, as often happens in other markets subjected to government regulation, the complex economic consequences of anti-drug laws include some surprising outcomes.

In a completely free market for intoxicating substances, drugs like cocaine, heroin, marijuana, and so on that are currently illegal would be sold at lower prices, be available in larger quantities, and be of higher quality than we currently observe. (Some advocates of

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Gary M. Anderson is Professor of Economics at California State University–Northridge, and Robert D. Tollison is Duncan Black Professor of Economics, and Director of the Center for Study of Public Choice, at George Mason University.

[1]See Boaz (1990), Ostrowski (1989), and Trebach (1987) for some recent surveys.

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continuing illegalization argue that this increase in price and decrease in availability is, in fact, an appropriate goal of such policy.)

However, legal prohibition will only imply actual elimination of a good or activity if the enforcement of that prohibition is costless. In the real world, perfect enforcement of laws—including laws against the sale and use of intoxicating drugs—is normally impossible, because a completely effective prohibition would be prohibitively costly. Therefore, we normally expect that any real law will be only imperfectly enforced.

Consequently, despite the severe legal penalties for the possession and sale of certain drugs, drug producers—*industries*—exist to provide goods to drug consumers. The War on Drugs, which undoubtedly has increased the average price of such drugs and possibly reduced the aggregate quantity supplied, has not—and probably could not—eliminate the drug "industry."

Given that the continued existence of an illegal drug "industry" is practically inevitable, a secondary problem becomes of interest: How does the War on Drugs, as actually implemented, influence the structure of that illegal "industry," and how do those black market "service providers" behave toward their customers?

Drug enforcement activities have some surprising unintended effects on the structure of the illegal drug "industry." In reality, the War on Drugs keeps this black market "industry" highly competitive. As a result of drug laws, new entrants into the industry do not have to overcome investments by existing suppliers in brand-name capital. Drug law enforcement as conducted in practice actually promotes greater competition in the market for illegal intoxicants.

Consider what kind of strategy the War on Drugs would follow to minimize the actual use of illicit substances. An illegal drug "industry" (of some size) will continue to exist under any drug law regime, even the most draconian. The government could maximize the magnitude of losses to consumers of illegal drugs by forcing them to buy their merchandise from black market "monopolies"—single sellers in the drug market protected from competing potential entrants by the drug enforcement authorities. Grant a monopoly to one seller—say, to one heroin "firm," perhaps "Mafia, Inc."—and allocate massive law enforcement resources to protecting that firm from all competition. This crime-minimizing solution to law enforcement was first suggested by James Buchanan (1973).[2] That monopoly firm would behave in a predictable manner, increase price and decrease quantity sold to consumers. By encouraging monopoly of the market for drugs,

[2]See Buchanan (1973).

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which would exploit its consumers by overcharging and underproviding, the government would maximize the losses those consumers faced. This, in the peculiar universe of the War on Drugs, would be a "victory."

Oddly, the War on Drugs seems to pursue precisely the opposite policy in practice. Current drug enforcement strategy seems designed to increase, rather than decrease, competition in the drug "industry." Naturally, price is considerably higher than it otherwise would be in the absence of drug prohibition; but given the existing regime of prohibition, it is probable that price is lower and availability higher than it might be under a different regulatory strategy. Consider the effects of the War on Drugs on a commonly used metric of market competitiveness, industrial concentration.

The War on Drugs means that, in the case of the "illegal drug industry," most forms of advertising by drug "firms" are legally prohibited. (Obviously, some forms of "advertising" by drug firms, e.g. word of mouth, continue to exist.) Thus, one potential "barrier to entry" is eliminated. Product differentiation is kept minimal, so that the goods sold by various firms (i.e., illegal drugs) are essentially homogeneous commodities—one of the basic assumptions of the economic model of "perfect competition." There are no "brand names" in the market for cocaine, marijuana, etc. Consumer loyalty to particular "brands" does not develop, so new firms do not face an uphill battle attracting the old firm's customers.

Another factor in the War on Drugs that reduces industrial concentration in the "drug industry" involves the legal risks associated with large size. As the industry becomes more highly concentrated, average firm size becomes greater. Larger firms in the drug industry are more visible, harder to hide, and therefore more likely to come to the attention of drug enforcers. Small, informal firms that invest in little or no fixed capital can rapidly disappear in the event of unusual attention from the police. Therefore, even if there might tend to be other reasons (e.g., economies of scale in distribution) that might otherwise lead to an industry with only a few big firms, the legal risks associated with large size keep firms little and numerous. In a black market, small is beautiful.

Frequent references to various "cartels" in the illegal drug trade might seem to suggest that the War on Drugs tends to cartelize the "drug industry" by restricting competition. However, the "cartels" that receive so much media attention are not cartels at all in the economic sense, but merely large, vertically integrated drug manufacturing enterprises. There are a number of competing "drug cartels," which is another way of saying that the production of illegal

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drugs is highly competitive although individual firms are price-searchers. Drug retailing—i.e., the "gas stations" in the world of drugs, which actually deal with consumers—is an intensely competitive market composed of numerous tiny "firms."

True industrial cartels are even less likely in the illegal drug market than they would be if drug laws were eliminated. The government drug enforcement effort systematically attacks larger firms, both because smaller firms enjoy lower costs of hiding from the War on Drugs and also because the bureaucratic incentives within the government drug enforcement agencies reward bigger busts. Hugh seizures of illegal drugs are rewarded with intense media attention and are most likely to result in bigger budgets for drug enforcement agencies as well as promotions for individual agents. In contrast, an equivalent number of minor seizures receive comparatively little attention. Small firms are most likely to be left alone, albeit forced to provide information to (say) the Drug Enforcement Administration (DEA) on their larger competitors. The DEA is the trust-buster of the illegal drug market.

This may help to explain a curious fact: over the last few years, while the resources devoted to the War on Drugs grew rapidly, the street price of most forms of illegal drugs (e.g., cocaine) consistently fell. It has been often noted that large seizures of drugs seldom result in any measurable increase in the street prices afterwards. Large seizures selectively target larger illegal drug "firms" and tend to reduce industrial concentration in this "industry" as a result. By contrast, while the drug "merchandise" of relatively small dealers is equally illegal, a greatly disproportionate share of drug enforcement resources is in practice allocated to the effort to capture and prosecute "major" dealers, i.e., large drug firms. Therefore, over time this activity leads to price reductions (and increases in the quantity of drugs available to consumers!) as a predictable consequence of reduced industrial concentration. (Incidentally, the drugs "seized" in massive busts do not necessarily represent a supply that was imminently destined for market at all by the "oligopoly" firm. Such supplies might have been held off the market for a long period, as the firm attempted to exploit market power by restricting the quantity of drugs it sold to consumers.)

If the War on Drugs abandoned its current "antitrust" aspects, the "licensing" of monopoly (regulated) drug suppliers would be only one option. Another might be identifying, and selectively targeting, drug firms that have relatively efficient operations, experience rapid growth, offer consumers high quality at a relatively low price, or otherwise stand out for their efficiency. Current Drug War policy

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sanctions drug sales in such a manner as to implicitly promote competition, and therefore drug use (because "products" are available at a lower price than would otherwise be the case).

Other Perverse Effects of Current Drug War Strategy

In an ordinary legal market, disputes about the terms of a contract can be resolved in court. But drug firms have no legal recourse in the event of a contractual dispute. Therefore, transactions are kept simple and "cash-on-the-barrelhead." More complex, intertemporal contracts are relatively unenforceable. This factor also serves to keep operations small and simple.

The threat of private violence is the only contractual enforcement mechanism available in inner-city drug markets. After all, if someone accepts delivery of a shipment of cocaine and then refuses to pay for it, the dealer cannot haul him into court and sue. At least some drug-related murders represent private sanctions imposed on violators of contractual agreements.

If dealing drugs is already punishable by long prison sentences, then dealing drugs and committing murder, or assault, in addition is not much more "expensive" in terms of expected legal penalties. Therefore, the relative price of using violence is low to drug dealers. The criminal justice system does not reward drug dealers for resolving disputes peacefully. Thus, we expect drug-murder rates to be higher simply because of the War on Drugs, although other factors might influence the drug-murder rates as well. If stamp collecting was punishable by long prison terms, stamp dealers would probably resolve disputes with firearms, too.

For example, take the "gang problem." Gangs in the inner city are essentially mercenary organizations that provide military services to their "clients." Anti-gang laws limit the ability of gangs and other potential mercenary firms to engage in the kind of training and other activities (e.g., wearing uniforms) that tend to improve their military efficiency. Such laws effectively eliminate the access of larger, established firms to more expensive, and efficient, forms of paramilitary organization for accomplishing their violent ends. All firms—established and well funded, and potential, with little capital—are restricted to the use of poorly organized, individual assassins. In the absence of military-type organizations, individual assassins are approximately homogeneous.

In consequence, the professional murderers who are available for the established firms to hire will be about as efficient as the

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murderers available to the potential entrants. Thus, larger firms are unable to exploit the potentially available economies of scale in murder. The law prevents big firms from hiring more expensive, but more efficient, well-trained private armies. Anti-gang laws, gun restrictions, and other regulations ensure that all drug dealers, big and small, old and new, compete on a level playing (or rather, killing) field.

Even if the net advantage of the availability of relatively low-cost use of murder is zero, a city with a higher drug-murder rate may be an area in which there is a relatively high level of competitive entry. If no potential entrants were trying to compete with established firms, the murder rate would be low. Thus, in a city where the murder rate is very high, we would expect prices in the illegal drug market to be lower than they would be under a drug monopoly.

If instead of a blanket prohibition on the sale and use of illegal drugs, the government decriminalized use and licensed a monopoly supplier (that was then tightly regulated), a significant portion of the extraordinary violence associated with the drug trade would cease. Legal drug "contracts" would be enforceable in court and would not require enforcement at gunpoint. Consumers of regulated intoxicants would have an incentive to avoid the violence and lawlessness of street deals, and consequently street thugs would lose much of their clientele. Such a regulated monopoly would benefit public order and might reduce the total quantity of drugs available at the same time.

Government-Subsidized Drug Advertising

The illegality of narcotics prevents the emergence of brand names in the drug market and severely restricts the ability of drug sellers to differentiate their products. We argued above that this legally enforced product homogeneity makes the drug market closely resemble the (unrealistic) model of "perfect competition." The absence of "brand names" in the illegal drug market also tends to lower average quality of the goods, and the resulting impurities result in thousands of deaths each year among users.

On the other hand, the War on Drugs itself provides a kind of advertising campaign for illegal drugs in general. Whether intended or accidental, a byproduct of government activity ostensibly designed to reduce drug use may be to increase demand for illegal drugs.

Consider the problem facing a seller of illegal drugs when competing for consumer favor in the marketplace. He is (individually) prevented from advertising openly, and therefore cannot directly

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approach potential customers of his "product." All drug dealers face the same disadvantage, which means both that product differentiation among those competitors is restricted, and also that their collective market share of consumer entertainment/intoxication expenditures is smaller than it would otherwise be. Legal intoxicants (e.g., alcoholic beverages) and other potential substitute forms of entertainment (e.g., movies) are free to advertise their price and availability to consumers, and thereby attract a relatively larger share of consumer dollars.

The War on Drugs redresses this imbalance. While individual drug sellers are unable to engage in legal advertising, government drug law enforcement publicizes to consumers the availability of drugs as a form of intoxication. Potential "recreational users" are reminded of the option of taking illegal drugs instead of getting drunk or going to a concert. Drug users are also provided substantial amounts of information about illegal drugs, including the quality, characteristics, price, and availability for purchase of the "product."

In short, the War on Drugs functions like an illegal drug industry "trade association" that provides collective advertising for member firms. Major drug busts function as huge drug-industry promotional campaigns. Large drug seizures communicate to potential drug consumers the availability of the type of drug involved, and most important, the location of the "market outlets." For example, a widely publicized bust in a particular section of South-central Los Angeles communicates to drug users in Los Angeles County what kind of drugs are currently available on the street, and approximately where they can go and expect to make a purchase. We should even consider the possibility that from time to time drug dealers intentionally allow fairly large quantities of cocaine to be "discovered" and seized for the purpose of securing free advertising.

Unlike more ordinary cases of industries where firms band together in trade associations to pool advertising resources, in this instance the government pays the cost of the advertising campaign. (Drug dealers bear some significant costs, such as increased risk of arrest and conviction in drug sweeps, merchandise lost to seizures, etc., but these losses tend to be relatively small compared to the total costs of the War on Drugs.) By contrast, the pharmaceutical industry, the almond industry, and the raisin industry (to mention only three that pool advertising resources) all have to pay for their own advertising campaigns. This enormous, heavily subsidized drug advertising campaign, managed entirely by the government, increases the demand for illegal drugs. A truly "serious" effort to reduce the demand for illicit intoxicants would refrain from extensive efforts to

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educate the non-using public about the detailed aspects—and to some potential consumers, advantages of—drug use.

An Educated Consumer Is a Smart Shopper

Government-subsidized advertising for illegal drugs also includes activities described as "drug education." Such government efforts claimed to "discourage" drug use among young people through persuasion may actually tend to increase the demand for drugs, holding other things equal.

Naturally, providing young people with accurate information concerning the negative consequences of drug use could conceivably reduce drug consumption on net; youngsters who might mistakenly take drugs (which they wrongly believed were not detrimental to their health) might be deterred. But how likely is it that any person, no matter how naive, might "mistakenly" spend a large sum of money on a product like cocaine without the expectation of intoxication?

On the other hand, the mere "fact" communicated by "drug education" programs that drug use involves health risks (assuming, for the sake of argument, that an accurate account of the real risks is really presented by police officers and narcotics control agents in the classroom) will not necessarily deter consumer demand. Degrees of risk aversion in the general population vary. Some people regard the risk of injury from skiing as too great and stay off the slopes, but many other people react differently to that same degree of risk. Similarly, in the case of drug use people may react differently to the same information pertaining to health risks. In the case of cigarette smoking, the health risks are universally understood, but many people continue to smoke anyway. Even if we assume that drug education conveys only completely accurate and reliable information about the health risks associated with drug use—a very optimistic assumption—it is unrealistic to expect that all individuals will react identically to this information.

Consider the average teenager. Challenging authority is her favorite pastime. Rebellion is her middle name. Furthermore, to the average teenager, risk is exciting. Normal adolescents are at least less risk averse than normal adults, on average; in many cases, they are more properly described as risk lovers. Observers of adolescent behavior since the dawn of time have noted this characteristic of the post-pubescent set.

But this common adolescent characteristic has an implication that has been ignored in the excitement over the War on Drugs: education about the risks of drug use may have little or no effect on the demand

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for drugs from adolescents. Drug education may actually make the problem worse, by eliciting greater interest in taking drugs. Adult preoccupation with the evils of drug abuse makes drug abuse marginally more attractive to rebellious teens. Highly advertised risk is made to seem more exciting, and drugs are made an adolescent badge of honor in the War Between Adults and Teens. Ironically, if (as critics sometimes charge) there is a tendency for drug education to exaggerate the true extent of the risks associated with drug use, this perverse effect on teenage behavior might be even stronger. Therefore, it is not surprising that drug education has been found to increase drug use, if only slightly.[3] In 1982, in the Netherlands (where possession and use of small amounts of marijuana is legal) only 0.5 percent of high school seniors used the drug daily, compared to the United States, where 6.3 percent of high school seniors reported daily use.[4]

Inner city youth do not need "drug education" programs to inform them about the effects and consequences of illegal drug use—such activity is likely to be all around them. But middle-class kids, in "safe" neighborhoods, may really not know much about drugs prior to becoming "educated" about such consumption, thanks to government. Hence, the principal effect of Drug War "education" may be to increase awareness of—and interest in pursuing—drug use among that portion of the population that would otherwise be unaware and uninterested.

Drug education provides information to potential consumers that would otherwise be unavailable to them, or available only at high cost. Students exposed to drug education are likely to learn about the effects of various substances, the appearance of drugs, some general price information, and perhaps even something about where and how to shop. Regardless of the anti-drug context in which this information is packaged, the information is valuable to potential drug consumers nonetheless. Thus, the real costs of purchasing and using drugs are reduced by drug education. This is independent of the possibly perverse effect of the emphasis on the riskiness of drugs mentioned above.

For these reasons, massive public spending on "drug education" may have the opposite effect from that claimed by proponents. The effects of such efforts are at minimum ambiguous, and at worst are self-defeating. It is as if IRS employees were sent into schools to teach students that they should not cheat on their taxes—and then

[3]See Martz (1990, p. 74), Miller (1989, p. 77), and Berke (1990, p.1).

[4]See Trebach (1987, pp. 103–5). These figures are also cited in Ostrowski (1989, p. 3).

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explained the very cheating techniques that the students "must never use."

Conclusion

The War on Drugs generates a variety of perverse consequences that are at odds with the War's ostensible purpose. Drug illegality increases the rate of violent crime, leads to corruption among law enforcers, lowers the average quality of street drugs and hence leads to the deaths of many users from impurities, and draws scarce law enforcement resources away from providing citizens with protection from robbers, thugs, and murderers. These are only some of the more tangible, potentially quantifiable losses.[5]

Assume a large government bureaucracy, providing paychecks to tens of thousands of civil servants, whose tax-based funding is gigantic and rapidly growing. This bureaucracy is assigned the task of eradicating some activity. Once that activity is actually eradicated, the demand for the services of the bureaucrats will cease. How would we expect this bureaucracy to respond?

An inconsistent "eradication" strategy might be a consistent solution to this rational bureaucracy's problem. Busily and noisily "eradicate" with the one hand, and busily (but more quietly) promote and encourage the prohibited activity with the other. The War on Drugs bureaucracy seems to have stumbled on to just such a "solution" to its peculiar problem—ensuring that the War on Drugs continues into perpetuity.

Our purpose here has been to outline some neglected "perverse consequences" of the manner in which the War on Drugs has been "fought." The government imposes severe penalties on the sale and use of certain illegal intoxicants; but that same government engages in a kind of informal "antitrust" program in the market for illegal drugs, which has the effect of increasing competition in that market and (indirectly) making more drugs available to consumers more cheaply than would otherwise be the case.

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[5]See Boaz (1990) for a recent accounting of these effects. Other losses, such as the higher level of general disrespect for the law, the increasingly arbitrary disregard for individual liberties, and the huge costs borne by individuals found guilty of a victimless "crime," are equally important, but inherently difficult to quantify.

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The Political Economy of Statutory Deadlines

Alden F. Abbott and Gordon L. Brady

Introduction

This paper explores the political economy of statutory deadlines. By providing legally binding mandates that require agencies (federal or state) to accomplish specified actions by a "date certain," statutory deadlines are popularly conceived as a management tool to curb unnecessary delay and to firmly establish priorities for recalcitrant bureaucrats. We argue that members of Congress seek "rents" through the enactment of statutory deadlines, which is to say that they use scarce resources to transfer wealth. This paper analyzes political behavior in which rent seeking is a cost of running a transfer society. Ours is a neoclassical analysis in that we argue that members of Congress will not knowingly leave gains from trade unexploited.

The first section of this paper provides a discussion of the nature of statutory deadlines. The second provides an overview of congressional rent seeking, and the third examines the political economy of statutory deadlines. In the final section, we briefly address the policy implications of statutory deadlines.

The Nature of Statutory Deadlines

Statutory deadlines may be symbolic (sound good) or have teeth, i.e., they may be coupled with a well-defined mandate and an adequate budget for agency enforcement. Statutory deadlines raise the visibility of issues, provide advertisement for candidates, provide a patronage mechanism for members of Congress to pay off

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Alden F. Abbott is Counsellor to the General Counsel at the Department of Commerce. The views expressed herein are his own and should not be considered to reflect the views of the Department of Commerce. Gordon L. Brady is Associate Professor of Economics and Director of Environmental Studies at Sweet Briar College.

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constituencies, and enable Congress to micromanage the executive branch into submission. Congress may also use these deadlines to shift the blame for failure and to capture the benefits of any success achieved by the executive agency. Statutory deadlines add to the size of government through layers of program implementers and monitors. Outside government, the deadlines create an industry of representatives of those who are subject to regulation and give rise to pro-regulatory and anti-regulatory interest groups.

Congress has increasingly imposed statutory deadlines in environmental statutes administered by the Environmental Protection Agency (EPA) and in health and safety statutes administered by the Transportation Department, the Labor Department's Occupational Safety and Health Administration (OSHA), and the Consumer Product Safety Commission. Some 600 statutory deadlines were written into law during the 1970–83 period. Those deadlines required state or federal agencies to accomplish specified action such as setting standards, promulgating regulations, or holding public hearings (Downing and Brady 1979, Abbott 1987a).[1]

Several explanations have been advanced for statutory deadlines. Normative "public interest" explanations for statutory deadlines involve combating delay and ensuring that agencies allocate their resources in a "socially correct" (i.e., congressionally desired) manner. We reject the notion that members of Congress pass statutory deadlines because they are ill-informed and because they genuinely believe that such deadlines curb delay and effectively set agency priorities. The evidence that statutory deadlines are ineffective at promoting these goals is sufficiently well documented in the public record to warrant rejection of the "congressional ignorance" explanation.[2]

The "delay avoidance" and "priority setting" explanations for the proliferation of deadlines are rejected for several reasons (Abbott

[1]Reliance on statutory deadlines for priority setting is exemplified by the 1984 amendments to the Resource Conservation and Recovery Act. The RCRA amendments establish more than 60 deadlines for the promulgation of specific regulations pertaining to the land disposal of hazardous wastes. Of EPA's approximately 300 deadlines for specific regulatory action, for example, the agency has met, on time, only 14 percent. In addition, the Administrative Conference found that during the 1970s statutory deadlines neither curbed regulatory delay nor shaped the priorities established by OSHA and by the Consumer Product Safety Commission (Administrative Conference 1978).

[2]A set of 11 case studies, published in 1987, explores the nature of wasted resource costs, agency resource misallocation costs, and regulatory inefficiency costs resulting from statutory deadlines imposed on the EPA (seven cases), on OSHA (two cases), on the Consumer Product Safety Commission (one case), and on the U.S. Coast Guard (one case) (Abbott 1987b).

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1987a, 1987b). Statutory deadlines have no effect in addressing the causes of regulatory delay, especially the passage of new statutes requiring the promulgation of additional rules and statutory deadlines. Moreover, agencies often face severe budget constraints that limit their ability to accelerate the pace of rulemaking proceedings in response to the artificial constraint of a statutory deadline that is unlikely to be enforced.

Statutory deadlines are of minimal effectiveness in curbing delay brought about by the actions of interested third parties, e.g., public interest groups, the administrative and corporate law bar, and the bureaucracy (regulatory and congressional) charged with monitoring and enforcement. Statutory deadlines do nothing to alter the incentives of either the private sector of public interest groups to precipitate and forestall administrative action through lawsuits and regulatory filings. Indeed, statutory deadlines provide an additional means for third parties to affect agency behavior. In addition, statutory deadlines do not deal with delay arising out of agency-specific procedural and managerial inefficiencies. To the contrary, the Administrative Conference has concluded that statutory deadlines may actually *preclude* agencies from improving their operations through the adoption of innovative procedural techniques (Administrative Conference 1978).

Statutory deadlines are ineffective in allowing Congress to set agency priorities. As a detailed study of environmental statutory deadlines found: "The cumulative load of deadlines means they *seldom set priorities*. . . . The authorizing committees which write the laws and establish the deadlines usually play a *minor* role, if any, in developing and implementing the real regulatory agenda" (emphasis added).[3] When an agency subject to a budget constraint faces a number of statutory deadlines, not all of which can be met, the agency, rather than Congress, is able to decide which of the projects subject to deadlines are really pressing (Abbott 1987a).

Congressional Rent Seeking

The high re-election rate of members of Congress (98.5 percent for members of the House of Representatives) may be argued to derive from their use of various extra-legislative and intra-legislative inputs.

[3]Environmental and Energy Study Institute and Environmental Law Institute (1985, p. iv). EPA's Assistant Administrator J. Winston Porter explicitly stated that EPA would let certain environmental deadlines "slide" and would concentrate first on the matter that *it believed* would yield the greatest relative environmental benefits (Administrative Conference 1978).

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Extra-legislative inputs are achieved outside the process by which Congress legislates and regulates (micromanages) the executive branch. The term "intra-legislative" refers to the use of legislative rules in pursuit of the various goals (public and private) of members of Congress. Extra-legislative inputs are used by members of Congress to carry out the permanent campaigns that are vital to the political capital of members of Congress (i.e., enhancement of power, retention of office, and maintenance of rents). In addition to Political Action Group (PAC) money, extra-legislative inputs include receiving honoraria (for appearances before groups that may support the re-election campaigns of members of Congress), franking privileges, funding for trips to visit constituents, and government funding of large staffs (which perform constituent services and otherwise work for the re-election of their patrons).[4]

The literature on intra-legislative rent seeking traditionally has focused on voting behavior, in particular, voting rules, logrolling, and agenda setting (Tullock 1988). Little attention has been focused on the intra-legislative mechanisms for rent seeking by which members of Congress seek to secure re-election (or election to higher office) prospects and, thus, to maintain their ability to create and extract rents.[5]

Statutory deadlines advance the re-election objective by providing a patronage mechanism by which members of Congress secure the support of coalitions comprising public interest groups, the bureaucracy (federal or state), the president (the administration), the news media, and the administrative and corporate law bar. Statutory deadlines may be viewed by members of Congress as a low-cost means to secure rents by bestowing political patronage (i.e., create rents) for narrowly focused special interest groups through the opportunity

[4]It is expensive to be a member of Congress. In 1988 eighty members of the House of Representatives were unopposed in the general election, 81 members spent more than $600,000, and 15 members spent more than $1 million. With the average incumbent receiving $200,000, the PACs supported incumbents over challengers by a factor of 8 to 1. Seventy-eight incumbents received more than $300,000, roughly the price of an average seat. A seat in the House now costs $358,992, up 10 percent from the 101st Congress and double the cost of winning in 1980. A surplus of $63 million exists among present members ("Life Members" 1989, p. A24).

[5]Other intra-legislative rent-seeking mechanisms include "whipsawing" the appropriation and authorization committees, using "enrolled" bills and budget reconciliation bills, adopting conference language as legislative intent in the interpretation of appropriations and authorization language, employing the moral suasion of congressional oversight committees to reprogram funds without legislation, withholding bills from presidential approval, requesting studies and investigations by "independent" arms of Congress (e.g., congressional commissions, joint executive-congressional bodies), and calling in special prosecutors.

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for media coverage and access to administrative and judicial proceedings.

Interest groups can do well by being perceived to be doing good (Tullock 1967, 1984). Financial contributions may be forthcoming from the general public in response to favorable publicity by the statutory deadline–generating members of Congress and their supportive coalitions. Business interests may contribute to public interest groups to co-opt them or contribute to congressional campaigns and thus build ties to public-spirited incumbent members of Congress of growing stature. The result of interest group and congressional interactions is a transfer of resources to debate, publicize, support, oppose, or defend the regulated interest subject to statutory deadlines.

The comparative advantage in creating rents will differ among members of Congress serving as candidates (for congressional leadership position and for external, regional, or national office); legislators; committee members; and committee chairs. For each forum (commercial, ideological, national, regional), the rules, clientele, or constituency will generate different rents available from promises. The cost of nonperformance will also differ among members of Congress.

The Political Economy of Statutory Deadlines

The rent-seeking literature suggests a more powerful explanation for statutory deadlines.[6] Specifically, the enactment of such deadlines may be used to garner interest-group support for the members of Congress who formulated and promoted new statutory deadlines (Downing and Brady 1979). Statutory deadlines provide a complex adversarial framework for public interest groups that thrive by highlighting environmental or health and safety dangers. By meshing the statutory time frame and the means for achieving the goal in administrative procedure, statutory deadlines trigger the involvement of powerful actors, e.g., the courts, the administrative law bar, the pro bono bar, and the corporate law bar. If nothing more, a public interest group may issue press releases criticizing—and file lawsuits against—agencies that fail to meet statutory deadlines. Even if suits

[6]The traditional rent-seeking literature, derived from a seminal 1967 article by Tullock, focuses on the dissipation of scarce social surplus by individuals who compete for *monopoly privilege* (see Tullock 1967, 1980, 1988; Krueger 1974). Recently, however, a few articles have considered special situations in which rent seeking raises, rather than diminishes, social welfare (Abbot and Brady 1990; Anderson, Rowley, and Tollison 1988; Higgins, Shughart, and Tollison 1985). The efforts of members of Congress to secure the enactment of statutory deadlines clearly fall within the former, traditional category of harmful rent seeking.

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do not succeed, they publicize and enhance the public interest groups' reputations as guardians of the public welfare. This recognition may become the basis for additional public or private sector support, either financially or through a more formal role as public interest intervenors in administrative proceedings. Publicity and identification with a newsworthy issue are often used to justify government funding of public interest groups (Bennett and DiLorenzo 1985). No doubt, the administrative law bar gains substantial benefits from participation in the complex administrative proceedings and lawsuits that statutory deadlines engender.

Furthermore, the enactment of new statutory deadlines—and their subsequent failure to be met—allows the press to turn a spotlight on environmental or health and safety crises that will stir reader interest. The support for statutory deadlines by coalitions may be expected to generate publicity for individual members of Congress or to spark financial contributions that enhance the re-election prospects of members of Congress.

The cooperative aspect of statutory deadlines differentiates them from the standard rent-seeking paradigm. The traditional rent-seeking literature focuses on the surplus that is wastefully dissipated by individuals who compete (through lobbying, for example) for a monopoly franchise (Tullock 1967). In contrast, rent seeking by members of Congress who seek to obtain statutory deadlines has the features of a cooperative game.

The enactment of statutory deadlines is a public good in the sense that it involves nonrival consumption—all members of Congress who are active in promoting the passage of statutory deadlines derive benefits therefrom. Nor does the rent derived by one member of Congress from a statutory deadline diminish that statutory deadline's value to another member of Congress. Accordingly, since a statutory deadline typically applies to a particular agency, members of the congressional authorizing committee that oversees an agency will have a strong incentive to work to bring about the statutory deadline's passage. Thus, unlike the classic rent-seeking scenario, no waste arises from the efforts of competing rent seekers to counter each other's actions that are aimed at securing monopoly privilege.

However, the production of statutory deadlines is not a true public good because there is excludability—only those members of Congress who actively support the passage of statutory deadlines will derive rents. Members of Congress who passively vote in favor of statutory deadlines that they have not actively promoted may, at best, derive marginal benefits by being able to claim to their voters that they have acted in the public interest. But public interest groups and

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the press are likely to shower favorable publicity only on those members of Congress who vigorously work to promote the passage of statutory deadlines. Because of this excludability feature, members of Congress who do not involve themselves in statutory deadline enactment cannot have a free ride on the rents produced by such deadlines; thus, there is no problem of social underproduction of statutory deadlines.

In marked contrast to the standard rent-seeking paradigm, the resources devoted to securing the passage of statutory deadlines are quite modest. In general, the resources involve drafting and legislatively justifying deadline proposals through congressional hearings, reports, speeches, or press releases. The resources also involve taking the parliamentary steps necessary to attach statutory deadlines to legislation that is being enacted.

Furthermore, significant resources need not be devoted to counter the opposition of members of Congress who might be expected to work against statutory deadlines. Even though statutory deadlines impose new obligations on agencies, such deadlines are not a major concern of members of Congress who are considered budget conscious. This lack of concern occurs because the passage of statutory deadlines does not normally generate large increases in agency appropriations. Agency expenditure levels are set by appropriations committees, rather than by the authorizing committees that generate deadlines. Appropriations committees need not—and typically do not—approve commensurate agency funding increases, merely because new statutory deadlines have been passed. This lack of connection between the authorization and appropriation processes helps explain why agencies generally lack the resources to meet statutory deadlines, and why members of Congress who oppose new agency spending or regulatory programs may not work vigorously to block the passage of additional statutory deadlines. Consequently, statutory deadlines provide a means by which authorizing committee members derive political benefits at low cost.

The unrealistic nature of many statutory deadlines is not a substantial barrier to their enactment. The likelihood that statutory deadlines will not be achieved is typically obscured by the fanfare surrounding the passage of new deadlines, which focus on the expansion of existing statutory goals. Moreover, missed deadlines may be used by authorizing committee members to publicly blame individual agencies—and the president—for failure to follow congressional dictates. Oversight provides the opportunity for members of Congress to deride the obstinacy and the neglect of the public interest by miscreant agencies that have missed the deadlines. Furthermore, oversight

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hearings may be used by authorizing committee members to generate additional favorable press coverage about the virtues of the goals to be achieved by statutory deadlines (and thus the virtuous nature of the members of Congress who crafted those deadlines). Since such favorable publicity (for the members of Congress) could not arise if deadlines were met, authorizing committee members may perversely benefit from inadequate appropriations, and they may have little incentive to lobby their appropriations committee colleagues for additional, statutory deadline–specific expenditures. To the extent that statutory deadlines are perceived as having little real effect, efficiency-conscious members of Congress who oppose such deadlines on principle will exhibit a weak preference for blocking new deadlines. Consequently, they will devote few resources to derailing statutory deadline proposals.

Bureaucrats may find it in their interest to support the proliferation of deadlines. Rules are social capital and it follows that the greater the number of tasks, the larger the budget that budget-maximizing bureaucrats will seek to justify. One would expect the size of government to reflect the accretions to the flow of social capital that result from statutory deadlines. While affected agency officials may not voice public support for statutory deadlines, it is undeniable that, as such deadlines proliferate, agency officials' arguments—for additional funding or, at the very least, for exemption from budget cuts—will take on added force. Thus, while statutory deadlines may create problems for agencies, they further the budget-maximizing desires of bureaucrats who wish to protect their human capital by having their agencies grow in size and influence, hence expanding the opportunity set of the individual bureaucrat. Furthermore, agency officials' criticism of statutory deadlines could easily be characterized by pro-statutory deadline groups as symptomatic of bureaucrats' lack of concern for the environment or for public health and safety. Accordingly, agency officials may have little incentive to publicly counter (in hearings and speeches) the efforts of pro-statutory deadline coalitions to secure the enactment of new deadlines.

Consistent with this analysis, agency officials (who anticipate being called onto the carpet in congressional oversight hearings) may make a good faith attempt to place special emphasis on regulatory projects that are assigned a deadline by Congress. Even if the deadline cannot be met, such emphasis will allow agency officials to argue that they are working hard on a problem singled out by Congress. Consequently, statutory deadlines will obtain both a life of their own and an industry of defenders and proponents to keep them before the public.

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Policy Implications of Statutory Deadlines

As discussed above, rent seeking generates relatively minor intra-legislative costs. However, statutory deadlines, once in place, act as a mechanism for transferring wealth. "Tullock costs" are generated in the form of (1) agency resource misallocations and (2) regulatory inefficiencies that affect private decisionmaking (Abbott and Brady 1990; Abbott 1987a, 1987b).[7]

First, statutory deadlines may create agency resource misallocation costs to the extent that they inefficiently skew regulatory priorities toward the politically pressing rather than the economically significant. When an agency faces a statutory requirement to solve a given regulatory problem by a "date certain," that agency may be precluded from addressing directly related, socially far more significant problems that may not have been identified at the time the statute was passed. To the extent that deadlines induce an agency not to deal with such previously unanticipated, and potentially more significant, problems, the resources are misallocated and social welfare is reduced. Furthermore, since resources devoted to statutory deadline problems and to non-deadline agency projects are subject to diminishing marginal returns, expanding deadlines will increase inefficiency. As such, resources that could yield progressively higher returns in non-deadline projects are devoted to initiatives of steadily decreasing social value. The potential magnitude of resource misallocation costs is illustrated by the Federal Water Pollution Control Act, which required the EPA to devote tens of millions of dollars to effluent standards and guidelines—resources that could more efficiently have been assigned to other regulatory activities (Abbott 1987b).

Second, statutory deadines may generate additional inefficiency costs, to the extent those deadlines induce agencies to act hastily and promulgate cost-inefficient regulations. Agency efforts to comply with (or come close to complying with) unrealistic statutory deadlines may lead agencies to promulgate excessively costly rules that harm industries and consumers—rules that would have been more efficient had the agencies not been subject to the pressure of an artificial time constraint. The resources devoted to devising these regulations reduce social welfare by costing society more than the benefits they yield.

[7]Gordon Tullock (1987) discussed the use of bulldozers to dig holes in roads, rather than to carry out repairs, as a possible example of the socially harmful reallocation of resources stemming from rent seeking. See Abbott (1987a) for a detailed discussion of the cost of wasted social resources that may flow from statutory deadlines.

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Conclusion

Principles of political economy suggest that Congress will not have an incentive to assign statutory deadlines to those regulatory problems that merit the greatest attention on the basis of a cost-benefit calculus. Political economists would not generally consider members of Congress to be altruistically motivated individuals who seek to maximize social surplus. Rather, their efforts are widely considered to focus on re-election and on finding ways to enhance their power, prestige, and popularity. Consequently, it follows that members of Congress are motivated to assign statutory deadlines to those matters that are viewed as generating the greatest amount of press coverage and constituent concern or support. Given the lack of congruity between microeconomically desirable and politically popular initiatives, the list of projects that are deemed politically most important need not bear any relation to the compendium of projects that are of greatest value from a cost-benefit perspective. We have shown that statutory deadlines come cheap and will not be undersupplied. We have also argued that any overlap between the two categories (microeconomic desirability and rent-producing statutory deadlines) is likely to be nothing more than coincidental. In short, there is little on the positive side of the ledger to weigh against the costs generated by statutory deadlines.

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THE FIRST MINIMUM WAGE LAWS

Clifford F. Thies

Introduction

From 1912 to 1923, minimum wage laws covering women and children were enacted in 15 states, the District of Columbia, and Puerto Rico.[1] Then, in 1923, the U.S. Supreme Court, in *Adkins v. Children's Hospital*, declared that the District of Columbia's minimum wage law violated the right of contract under the due process clause of the Fifth Amendment.

Unfortunately, few data were collected that would enable analysis of the effects of these first minimum wage laws. In spite of the fragmentary nature of the available data, advocates of minimum wages proclaimed that the experience with these laws proved them to be efficacious. According to Mary Elizabeth Pidgeon of the U.S. Women's Bureau, "The universal experience with minimum wage legislation . . . is that it has materially raised the wages . . . of women. . . . In regards to women's employment, the usual experience has been that it continues to increase regardless of whether or not there is minimum wage legislation" (1975, pp. 8–9; originally, U.S. Dept. of Labor, Women's Bureau 1937).

This article reconsiders the available data pertaining to the economic effects of the first minimum wage laws in light of contemporary minimum wage theory. In contrast to the above, exuberant assessment, it finds that the actual experience with these laws is that, to the extent they raised women's wages, they forced offsetting increases in the productivity of low-wage women, or else they lowered women's employment. That is, these laws restricted the choices available to

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The author is Associate Professor of Economics and Finance at the University of Baltimore.

[1]These minimum wage laws are described in detail in U.S. Dept. of Labor, Women's Bureau (1928).

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less productive women and their employers, removing the option of low-wage work.

The First Minimum Wage Laws: Historical Overview

The first minimum wage law was enacted in 1912 by Massachusetts. Like most of the other early minimum wage laws, this law provided for the establishment of regulatory boards that set minimum wages for women equal to the cost of living as determined by the board.[2] Also like most of the other early minimum wage laws, the Massachusetts law allowed for subminimum wages for learners and children, and granted exemptions for "slow" workers. The Massachusetts minimum wage law was unique, however, in that it was practically voluntary since the only penalty for noncompliance was publicity.

While Massachusetts passed a minimum wage law in 1912, it was in Oregon that minimum wage decrees were first issued. The Oregon decrees of 1914 set a minimum wage of $8.25 per week for most of the women employed in that state. These decrees are interesting for two reasons: First, the U.S. Department of Labor conducted a survey of 40 retail establishments in Portland and Salem in order to determine the decrees' economic effects (U.S. Dept. of Labor, Bureau of Labor Statistics 1915). Second, in 1917, *Settler v. O'Hara*, a case arising from the enforcement of these decrees, made its way to the U.S. Supreme Court. On a 4-4 vote, the Supreme Court let stand the Oregon supreme court's ruling upholding the law and, presumably, affirmed the constitutionality of minimum wage laws.

In 1923, however, in *Adkins v. Children's Hospital*, on a 5-3 vote, the Supreme Court struck down the District of Columbia's minimum wage law, on the basis that it violated the right of contract under the due process clause of the Fifth Amendment.[3] Notwithstanding the ruling of the Court in *Muller v. Oregon*, in 1908, upholding Oregon's first in the nation maximum hour law for women on the basis that women were not the equals of men, women—no less than men—had their right of contract under the Fifth Amendment protected:

[2]Arizona, Puerto Rico, and South Dakota, in contrast, set minimum wages by statute, similar to the way minimum wages are set under the present federal minimum wage law.

[3]While it could be argued that the Supreme Court attached a freedom of contract clause to the due process clause of the Fifth Amendment, it could also be argued that the Court could have based its decision on Article I, Section 10, the obligations of contracts clause.

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> But the ancient inequality of the sexes, otherwise than physical as suggested in the Muller case, has continued "with diminished intensity." In view of the great—not to say revolutionary—changes which have taken place since that utterance, in the contractual, political and civil status of women, culminating in the 19th Amendment, it is not unreasonable to say that these differences have now come almost, if not quite, to the vanishing point.

Chief Justice William Howard Taft, dissenting in *Adkins*, stated: "Legislatures, in limiting freedom of contract between employer and employee by a minimum wage proceed on the assumption that employees, in the class receiving the least pay, are not upon a full level of equality with their employer and in their necessitous circumstance are prone to accept pretty much anything that is offered. They are peculiarly subject to the overreacting of the harsh and greedy employer."

In spite of the closeness of the vote and the forcefulness of the dissenting opinion, the *Adkins* decision lead to the striking down of most of the other minimum wage laws. In 1924, in *Folding Furniture Co. v Industrial Commission*, a federal district court overturned the Wisconsin law; and, in *People v. Laurnage & Co.*, the Puerto Rico supreme court overturned that commonwealth's law. Also in 1924, in *Commonwealth v. Boston Transcript Co.*, the Massachusetts supreme court, while not overturning that state's practically voluntary minimum wage law, made clear that newspapers were not required to publish the names of companies not complying with it.

In 1925, in *Murphy v. Sardell*, and on the basis of the Fourteenth Amendment, the U.S. Supreme Court overturned the Arizona law. Also in 1925, in *Topeka Laundry Co. v. Court of Industrial Relations*, the Kansas supreme court overturned that state's law; and the Minnesota attorney general ruled that state's law unconstitutional as applied to adult females. In 1927, in *Donham v. West Nelson Manufacturing Co.*, and in striking down the Arkansas law, the U.S. Supreme Court ruled for the third time in succession that minimum wage laws were unconstitutional.

As of the end of the 1920s, of the 17 original minimum wage laws, five were either never enforced or were repealed, and seven were found unconstitutional (see Table 1). The remaining laws were enforced with discretion, since wage boards knew that if they "pressed too hard they would be taken to court" (Levitan and Belous 1979, p. 34). This discretion included liberal granting of exemptions to "slow" workers and targeting prosecution against small firms that could not easily afford appeals to the courts.

While the Supreme Court made it clear that minimum wages were unconstitutional, social reformers continued their advocacy of them.

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TABLE 1

EARLY MINIMUM WAGE LAWS

Location	Date	Disposition
Arizona	1917	Overturned by Supreme Court in 1925 in *Murphy v. Sardell*, following *Adkins*.
Arkansas	1915	Overturned by Supreme Court in 1927 in *Donham v. West Nelson Manuf. Co.*, following *Adkins*.
California	1913	Waited until Supreme Court upheld Oregon law in 1917 before issuing minimums. Withdrawn by state in *Gainer v. A. B. C. Dorhrman* in 1925, following *Adkins*.
Colorado	1913	Never enforced.
D.C.	1918	Overturned by Supreme Court on a 5-3 vote in *Adkins v. Children's Hospital* in 1923.
Kansas	1915	Overturned by Kansas supreme court in *Topeka Laundry Co. v. Court of Industrial Relations* in 1925, following *Adkins*.
Massachusetts	1912	Punishment only by publicity. Upheld by Massachusetts supreme court in *Commonwealth v. Boston Transcript Co.* in 1924, although papers could not be forced to print violators, following *Adkins*.
Minnesota	1913	Enjoined until 1918. Upheld by Minnesota supreme court as applied to minors in *Stevenson v. St. Clair* in 1925, although state attorney general ruled the law unenforceable as applied to adults, following *Adkins*.
Nebraska	1913	Never enforced, repealed in 1919.
North Dakota	1919	Enjoined until 1921.
Oregon	1913	Upheld by Supreme Court on a 4-4 vote in *Settler v. O'Hara* in 1917.
Puerto Rico	1919	Overturned by Puerto Rico supreme court in *People v. Laurnage & Co.* in 1924, following *Adkins*.

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TABLE 1 (cont.)

EARLY MINIMUM WAGE LAWS

Location	Date	Disposition
South Dakota	1923	Never enforced.
Texas	1919	Never enforced, repealed in 1921.
Utah	1913	Set low minimums, believed not effective in raising wages, repealed in 1929.
Washington	1913	Upheld by Supreme Court on a 5-4 vote in *West Coast Hotel Co. v. Parrish* in 1937, reversing a series of rulings finding minimum wage laws to be unconstitutional.
Wisconsin	1913	Waited until Supreme Court upheld Oregon law in 1917 before issuing minimums. Overturned by federal district court in 1924, following *Adkins*.

As just discussed, some states attempted to enforce their decrees in ways that avoided appeals to the courts. Wisconsin, after its original minimum wage law was declared unconstitutional, passed a new, so-called new design, minimum wage law. The original Wisconsin minimum wage law, similar to most of the others, provided for a minimum wage "sufficient [for a worker] to maintain himself or herself under conditions consistent with his or her welfare," defined to be "reasonable comfort, reasonable physical well-being, decency and moral well-being." The new Wisconsin law provided for a minimum wage that was only "not oppressive" (Levitan and Belous 1979, p. 37).

In 1936, in *Morehead v. Tipaldo,* and under pressure because of the Great Depression, the U.S. Supreme Court considered one of the "new design" minimum wage laws, namely, a 1933 New York State law that provided for a minimum wage that was "fairly and reasonably commensurate with the value of the service or class of service rendered" (Levitan and Belous 1979, p. 38). On a 5-4 vote, the Supreme Court struck down the New York State law on the ground that it was not substantially different from the previously considered minimum wage laws.

This was the fourth consecutive time that the Supreme Court found minimum wage laws to be unconstitutional.[4] Nevertheless, the swing

[4]In addition, the court's decision in *Schechter Corp. v. U.S.*, in 1935, could be cited.

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vote in *Morehead v. Tipaldo*, that of Justice Robert Owens, turned on a technical matter. The only issue the court considered in this case was whether New York State's "new design" minimum wage law was substantively different from the District of Columbia's minimum wage law struck down in *Adkins*. While Justice Roberts did not believe the "new design" law to be substantively different, he believed that the *Adkins* decision was itself wrong (Levitan and Belous 1979, p. 30). Accordingly, the next year, the Supreme Court called up another minimum wage case, this one dealing with Washington's longstanding minimum wage law. In this case, *West Coast Hotel Co. v. Parrish*, the Supreme Court, on another 5-4 vote, upheld minimum wage laws *as such* as constitutional. Wrote Chief Justice Charles E. Hughes, in the majority opinion, "What is this freedom? The Constitution does not speak of a freedom of contract."

Also in 1937, just after the Supreme Court ruling in *West Coast Hotel*, President Roosevelt called for a national minimum wage law saying, "All but the hopeless reactionary will agree that to conserve our primary resources of manpower, government must have some control over maximum hours, minimum wages, the evil of child labor, and the exploitation of unorganized labor." The next year, Congress passed the Fair Labor Standards Act. In 1941, in *United States v. F.W. Darby Lumber Co.*, the Supreme Court upheld the act on a 9-0 vote. Stated Justice Harlan Stone, in the court's unanimous opinion, the constitutionality of minimum wages "is no longer open to discussion."

Minimum Wages and Justice

Underpinning the minimum wage movement was an attack on the just wage theory that had prevailed from the middle ages through the enlightenment. During this period, it was thought that the just wage was determined by the consent of the parties involved. But, toward the end of the 19th century, Marxists, Fabian socialists, progressives, and Catholic and pietist Christian social reformers increasingly questioned the ability of ordinary men and women to consent to contracts, or, as they would put it, to bargain. As John R. Commons and J.B. Andrews (1920, p. 163) stated, "large numbers of unorganized workers are found . . . bargaining individually, employed at low wages and apparently unable to . . . improve their condition." Social

In this decision, the court struck down the National Industrial Recovery Act, which provided for industry cartels to establish codes of "fair competition," including maximum hours and minimum wages, prohibition of child labor, health and safety regulations, and collective bargaining.

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justice, as determined by government, was to replace justice, as determined by consenting individuals.

In his review of Catholic opinion on the subject of just wage theory prior to Pope Leo XIII's 1891 encyclical *Rerum Novarum*, James Healey finds unanimous support that freely entered into contracts determined the just wage. Among those who considered whether people could freely enter into onerous contracts, all agreed that the "use of physical force against a worker to elicit consent to a particular wage was condemned." Nevertheless, some held that it was not unjust "to profit by the inner compulsion of a worker's hunger" (Healey 1966, pp. 466–67).

But, in *Rerum Novarum*, the Catholic Church abandoned its support of the just wage being determined by the consent of the parties involved and supported establishment of legal minimum wages:

> Let it be granted then that as a rule, workman and employer should make free agreements and in particular should freely agree as to wages; nevertheless, there is a dictate of nature more imperious and more ancient than any bargain between man and man, that the remuneration must be enough to support the wage earner in reasonable and frugal comfort. If through necessity or the fear of a worse evil the workman accepts harder conditions because an employer or contractor will give him no better, he is the victim of force and injustice.

Father (later Monsignor) John A. Ryan, considered the leading American Catholic commentator on economic issues during the first part of the 20th century, argued, in *A Living Wage*, that employers were morally obligated to pay workers at least a living wage, and advocated state coercion of the same through laws providing for minimum wages and maximum hours, old-age pensions, low-cost housing, and prohibition of child labor.[5]

According to Ryan, some rights— for example, liberty—are natural and absolute. Others—for example, a living wage—are derived from existing social and industrial conditions. Indeed, even the level of the living wage varied according to social and industrial conditions. But, as the eventual outcome in the United States court system demonstrates, the right to set legal minimum wages contradicts, and cannot coexist with, the right to liberty.

Again, according to Ryan, the right to a living wage derives from the private ownership of property as distinct from the original

[5]To be precise, Ryan argued that men had a right to a wage sufficient to maintain themselves and raise a family—i.e., a family living wage—and women a right to a wage sufficient only to maintain themselves; but, to the extent that women did the same work as men they had the right to the same, higher minimum wage.

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"communal" ownership of nature. Ryan accepted the socialist folklore that the industrial revolution impoverished the common people, that with the advent of the factory system starvation wages forced the men of those times to send their wives and children into the mills. According to Ryan (1909, pp. 16–17), the industrial revolution was "a period of horror," characterized by "wage slavery." If this analysis is to be believed, common people lived well in pre-capitalist times, and capitalists were morally obliged to pay workers at least what they would have earned if capitalism had not arrived on the scene.[6]

The obvious fact is that workers cannot be long employed at less than a living wage if a living wage is defined, in an absolute sense, as a subsistence wage. Thus, Adam Smith, in *The Wealth of Nations* (1937, pp. 67–68), argued that there was a floor under wages at the subsistence level since a worker's "wages must at least be sufficient to maintain him," and over time, "to bring up a family." While Smith's was a scientific—not a normative—evaluation of market process, he showed there could be no systematic violation of a right to a living wage defined as a subsistence wage.

Ryan (1909, p. 36) essentially admitted that workers would at least be paid a subsistence wage, saying "the worker agrees to the harsh conditions because they mean for him the preservation of life." Proponents of minimum wages, however, shifted from advocating a right to a living wage defined as a subsistence wage to advocating a right to a decent wage. In his own political activity, Ryan advocated state coercion of such a decent wage. In a 1912 speech, for example, he stated that three-fifths of working women earn less than $6.25 per week, "much less than enough to maintain them[selves] *decently*" (Ryan 1912, p. 170; emphasis added).

Criticism of wages above the subsistence level, but below what was then considered decent, is found in many of the prominent reform publications of the time. The report of the New York State Factory Commission (1915, pp. 1679–80), in addition to containing a wealth of statistical data, described some of the conditions of low wage working women in vivid detail: "No privacy—no pleasure—simply a dull, monotonous routine of work and then more work." And, "Many girls who have the ability make their own clothes in the evening. . . . But this means of economizing means no free time in which to enjoy one's self" (pp. 1682–83). It is instructive to quote another description at length:

> From nine until six Mrs. N. [a young widow] stands waiting on customers. At six o'clock she walks home through unpleasant streets

[6]See Hayek (1954) for a revisionist history of the industrial revolution.

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> to her solitary room, cooks her dinner on the two burner gas stove, washes up the few dishes, sweeps the floor, washes and irons her shirtwaist and underwear, mends her clothes and then goes to bed. In the morning she rises early to cook her cereal and coffee, washes the dishes again, straightens the little room and then hastens to the store to report for work at 9 a.m. Such is her round—her life bounded by the jewelry counter in the store and the crowded room in the questionable section of the city [pp. 1678–79].

These are not descriptions of below subsistence wages. They are descriptions of low, but still above subsistence, wages and of standards of living below the expectations of the middle-class social reformers in the progressive movement.

Louise M. Bosworth, in *The Living Wage of Women Workers* (1911, p. 52) states: "Roommates are another form of economizing in rent. . . . If a fair-priced room is divided among two or more occupants, the cost to the individual immediately drops. . . . But this is at a cost of privacy and independence."

The report of the U.S. Department of Labor (1911, pp. 73–74) on the conditions of working women states, "Of the 1,568 women who reported on this question 62 percent said that they spent no money for pleasure." Of those who reported expenditures on "pleasure," the average spent was 37 cents per week. In comparison, an averge of 44 cents per week was contributed to (presumably more needy) relatives. These women's modest expenditures on "pleasure" may have disappointed the social reformers of the day, but they arguably had more caring priorities.

While, in the view of some social reformers, working women did not spend enough on "pleasure," in the view of other social reformers, they spent too much. Observing that "women adrift" spent more on "recreation and vacation" than women "at home," the Consumers League of Oregon (1913, pp. 66–67) stated, "There is not the same temptation for the girl at home to seek fun outside as there is the girl adrift, whose lonesomeness in her one room drives her innocently to seek diversion that eventually ends disastrously for her."

Regarding a living wage defined as a decent wage, there can only be two rules: either decency is to be determined by the parties involved, or it is to be determined by the state. The former rule is tolerant of differences of opinion about what is decent, while the latter rule is prejudicial, inviting each person to sit in judgment of others. Ryan and the other religious leaders in the minimum wage movement, by covering their appeal to people's prejudices with a veneer of religiosity, succeeded in replacing justice as it was originally understood with social justice, and succeeded in undermining liberty and the right of contract.

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It should be noted that the inherent subjectivity of governmentally set minimum wages was not lost on the Supreme Court in its *Adkins* decision: "What is sufficient to supply the necessary cost of living for a woman worker and maintain her in good health and protect her morals is obviously not a precise or unvarying sum—not even approximately so." In addition to differences in the cost of living due to "economies" workers can make in their own living expenses, the court further noted that workers can make "cooperative economies" by living in family groups.

Minimum Wages and the Distribution of Wages

In most states, agitation for minimum wage legislation began with surveys of the wages of women workers and the observation that many women worked for low wages. The 1st Biennial Report of the Kansas Industrial Welfare Commission (1918) reports the findings of nine surveys covering a total of 5,436 women workers. Thirty-one percent of these women earned less than $6 per week. The commission exclaimed "they hardly have enough to sustain life. Commercialism is placed at a higher value than humanity" (p. 24). Yet, in the six surveys for which data are available, only 2 percent of these women lived "away from home"; the overwhelming majority enjoyed the "cooperative economies" of family life.

For some other examples: In Oregon, in 1912, 9 percent of the 2,078 women workers in mercantile establishments surveyed were found to work for less than $6 per week (Consumers League of Oregon 1913). In Ohio, in 1913, 21 percent of the 14,635 women workers in mercantile establishments surveyed were found to work for less than $6 per week (Ohio Industrial Commission 1914). In Michigan, also in 1913, 22 percent of 50,351 women workers at 1,348 establishments were found to work for less than $6 per week. A concurrent survey of 8,512 women workers indicated that 24 percent earned less than $6 per week (Michigan State Commission 1915).

Variation in wages observed in surveys of women workers, especially within the same occupation, industry, and geographic area, very much concerned social reformers. Representative statements include: "There appears to be no wage standard throughout these trades" (New York State Factory Commission 1915, pp. 39–40). "Apparently, the wages of women in factory industries are very largely unstandardized" (U.S. Department of Labor 1911, p. 24). "Wages among the unorganized and lower grades of labor are mainly the result of tradition and of slight competition" (Massachusetts Minimum Wage Boards 1912, p. 18). "The fixing of wages seems to be a

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matter of chance" (Van Kleeck 1913, p. 67). "There are absolutely no standards of wages among them. Their wages are determined for the most part by the will of the employer without reference to efficiency or length of service on the part of the worker" (Consumers League of Oregon 1913, p. 6).

Due to limitations in the gathering, processing, and reporting of these data, it is not clear who exactly were low-wage women workers. Often, only the overall distribution of wages are reported, so that it is impossible to tell if low wages were due to part-time work, to inexperienced, aged, or handicapped workers, to nonwage benefits such as employer-provision of meals and lodging, or to other considerations such as tip income. Some details are reported for the 1913 Michigan survey. It is suggestive that of the 112 women in the candy industry earning less than $6 per week, 71 or 63 percent had less than one year's experience (Michigan State Commission 1915, Table 8).

During 1922 and 1923, three surveys of women's wages were conducted in Ohio. The U.S. Women's Bureau estimated that 36 percent of working women received less than $16 per week.[7] The Ohio Industrial Commission estimated that 53 percent of working women, exclusive of stenographers, bookkeepers, and clerks, received less than $16 per week. And the Ohio Minimum Wage Commission estimated that 36 percent of working women in large cities received less than $16 per week. Interestingly, the commission found that low-wage women workers were, almost exclusively, beginners, part-timers, juveniles, and handicapped individuals (Consumers League of Ohio, 1915).

In 1915, the Massachusetts Minimum Wage Commission conducted a survey of 24 establishments in the paper box industry that, together, employed 2,178 women. While wages were low, as Table 2 shows, they were highly correlated with experience. And, as the commission attested, wages were also highly correlated with the skill level of the occupation: "The lowest paid occupations . . . are gluing off, helping, hand folding and turning in. Gluing off is a simple operation requiring little skill; turning in is practically a 'helping' operation connected with stripping; hand folding is unskilled work; and helping may be one of several kinds of general or errand work through which most workers gain an introduction to the trade" (Massachusetts Minimum Wage Commission 1916, p. 50). In spite of the

[7]This shift from a minimum wage of $6 to $16 per week partially reflects a lower purchasing power of the dollar, and partially reflects a rise in standards of living generally and in the middle-class social reformers' view of "decency."

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TABLE 2

EXPERIENCE AND WOMEN'S WEEKLY WAGES

Experience	Massachusetts Paper Box Industry 1915[a]	Philadelphia Candy Industry 1919[b]	Kansas 1921[c]	Ohio 1923[d]
0–3 mos.	$4.98	$ 8.67	$ 9.65	$11.95
3–6 mos.	4.98	8.67	10.05	11.95
6–12 mos.	4.98	10.23	10.45	13.15
1–2 yrs.	5.69	10.52	11.10	13.75
2–3 yrs.	6.59	12.42	12.85	15.05
3–4 yrs.	7.18	12.42	13.70	15.20
4–5 yrs.	7.75	12.42	14.50	15.75
5–6 yrs.	8.12	14.21	14.60	16.05
6–7 yrs.	8.24	14.21	14.60	16.05
7–8 yrs.	8.07	14.21	14.60	16.05
8–9 yrs.	8.88	14.21	14.60	16.05
9–10 yrs.	8.67	14.21	14.60	16.05
10–11 yrs.	8.30	14.31	16.05	17.10
11–12 yrs.	8.00	14.31	16.05	17.10
12–13 yrs.	8.50	14.31	16.05	17.10
13–15 yrs.	9.07	14.31	16.05	17.10
15–16 yrs.	8.47	16.41	15.95	17.60
16–17 yrs.	8.47	16.41	15.95	17.60
17–18 yrs.	8.47	16.41	15.95	17.60
18–19 yrs.	8.47	16.41	15.95	17.60
19–20 yrs.	8.47	16.41	15.95	17.60
20 or more yrs.	8.47	16.12	15.95	17.60

[a]Means inferred from grouped data, "3rd Annual Report of the Massachusetts Minimum Wage Commission for the Year Ending December 31, 1915," p. 98.
[b]Medians, "Wages of Candy Makers in Philadelphia." U.S. Dept. of Labor, Women's Bureau (1919, p. 21).
[c]Medians, "Women's Wages in Kansas." U.S. Dept. of Labor, Women's Bureau (1921, p. 34).
[d]Medians, "Women in Ohio Industries." U.S. Dept. of Labor, Women's Bureau (1925, p. 51).

evident relationships among wages, experience, and occupational skills, the commission nevertheless concluded that "widely different scales of pay [demonstrate] the slight basis upon which the ordinary competition arguments rest" (p. 52).

The first survey conducted by the U.S. Women's Bureau was of the low-wage Philadelphia candy manufacturing industry (U.S. Dept. of Labor, Women's Bureau 1919). Twenty-five factories, employing a total of 1,505 women, were canvassed. While wages were low, as

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Table 2 shows, they were highly correlated with experience. It appears that women in this industry moved up from the least skilled, lowest paying occupations such as packing into the more skilled, higher paying occupations such as dipping as they gained experience (p. 22).

In spite of the high correlation of wages with experience and occupational skill level, the Women's Bureau asserted, "Wage setting seems to be more or less a matter of chance" (p. 20). Furthermore, without identifying why productivity should be correlated with age or familial responsibilities, the Women's Bureau went on to state that it found "no logical relation between ages and weekly earnings," and that "earnings are not affected by the fact that a girl is living alone away from her family, nor are they affected by the supposed support which family life gives to women workers" (pp. 23–24).

Even though the Women's Bureau stated that "perhaps it is hardly reasonable to expect that girls of 15 and 16 who have just begun to earn should be able to make living wages," it nevertheless argued that many women workers earned less than its estimate of the living wage (pp. 28–29).

The Women's Bureau conducted a number of other, statewide surveys of women's wages. Among these was a survey in Kansas that examined the effectiveness of one of the early minimum wage laws. At the time, there was an $11 per week minimum wage in manufacturing. Nevertheless, the Women's Bureau found that 20 percent of women employed in manufacturing earned less than $9 per week, and 50 percent earned less than $12 per week (U.S. Dept. of Labor, Women's Bureau 1921). Obviously, the minimum wage was not effective. However, as Table 2 shows, and as with women's wages in the Massachusetts paper box and the Philadelphia candy industries, a high correlation was found between wages and experience.

Over time, wage gains due to experience (as well as overall real wage progression in a free economy) lifted the vast majority of working women well above their original earning ability. For these women, low wages were the start of a journey leading to higher, more "decent" wages. To the extent that minimum wage laws made the start of this journey more difficult, they inhibited rather than provided the middle-class social reformers' living wage. Of course, others—including the aged and infirm—would remain in need of charity to supplement their meager earning ability. Minimum wages, by forcing these people out of work, increased their need of charity.

Effects of Minimum Wages

Economists have only recently attempted to take into account the fact that, in the absence of minimum wage laws, wages would

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naturally exhibit wide variation. Indeed, by reason of a generalized central limit theorem, if wages are the result of many, individually random factors contributing to each person's productivity, then they would be expected to be approximately normally distributed.[8] This section analyzes the effects of minimum wage laws when wages are so distributed. It begins by examining the distribution of wages in Massachusetts using that state's annual census of manufacturing.

The annual census of manufacturing conducted by the state of Massachusetts is a unique data source. During the time period under investigation, Massachusetts conducted its own census of manufacturing in those years in which the federal government did not conduct its quinquennial census of manufacturing.[9] Figures 1A through 1D present the distributions of weekly wages of women employed in all Massachusetts manufacturing industries during the years 1911 through 1914. It is evident that, without the intervention of minimum wage legislation, the distribution of women's wages approximated a bell-shaped, normal distribution.

Figures 2A through 2D present the distributions of weekly wages of women employed in the Massachusetts brush industry during the years 1911 through 1914. The distributions during 1911 and 1912 were approximately bell shaped and, therefore, similar to the overall pattern. To be sure, women's wages were lower in the brush industry, the mean weekly wage in these two years being only 65 and 66 percent of the mean weekly wage of women employed in all manufacturing industries.

The shape of the distributions during 1913 and 1914 is considerably different. The shape of these distributions reflects truncation, or the cutting off of the lower tail of the distribution. Truncation, sometimes referred to as the "bunching" of workers at the minimum

[8]To be precise, the distribution would be expected to be log-stable, which, relative to the normal, is skewed and fat-tailed. Pettengill approximates such a distribution by splicing together three segments of a log-normal distribution (see Pettengill 1980, Technical Appendix, p. 32).

[9]Figures 1A–1D, 2A–2D, 3, and 4 are based on data from the *Annual Report of Statistics of Manufacturers*, published by the Massachusetts Department of Labor and Industry. The Massachusetts census obtained the number of workers by sex, while the federal census obtained only the total number of workers. Therefore, in order to form a continuous series—see Figures 3 and 4—in 1909 and 1914 for employment in all industries, and in 1909 for employment in the brush industry, the total number of workers reported in the federal census is apportioned by sex according to the average proportion of male and female workers reported in the adjoining year's Massachusetts census; and in 1914 for employment in the brush industry, the total number of workers reported by the federal census is apportioned by sex according to the proportion of male and female workers reported in that year's survey of the brush industry conducted by the Massachusetts Minimum Wage Commission.

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FIGURE 1A

WOMEN'S WAGE DISTRIBUTION
MASS. MFG. INDUSTRIES, 1911

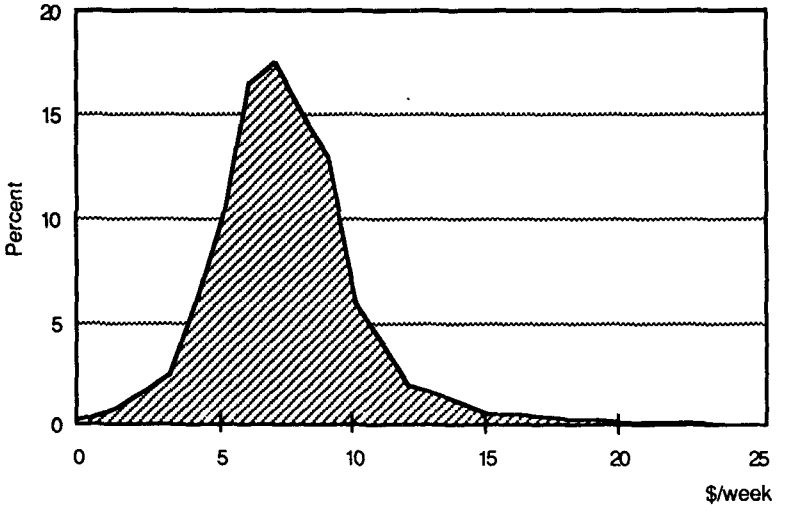

FIGURE 1B

WOMEN'S WAGE DISTRIBUTION
MASS. MFG. INDUSTRIES, 1912

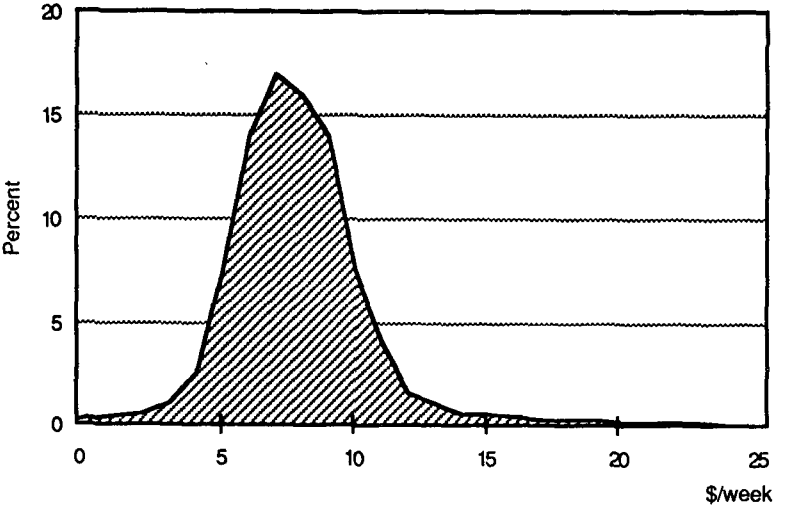

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FIGURE 1C

WOMEN'S WAGE DISTRIBUTION
MASS. MFG. INDUSTRIES, 1913

FIGURE 1D

WOMEN'S WAGE DISTRIBUTION
MASS. MFG. INDUSTRIES, 1914

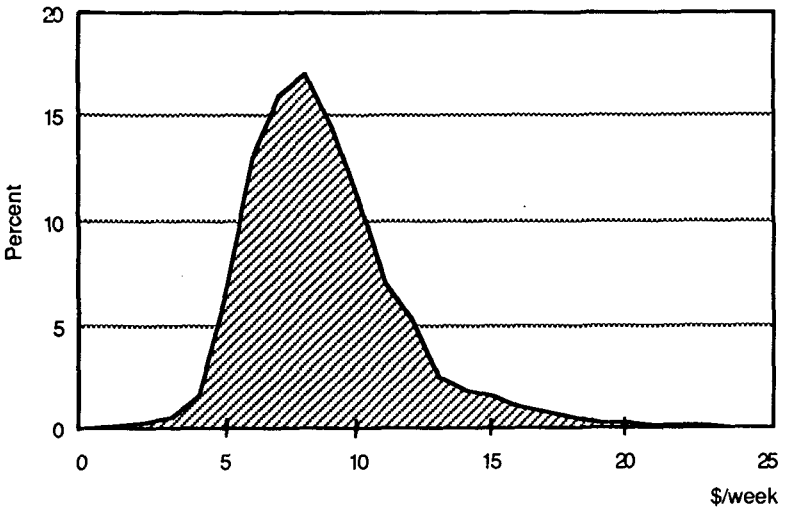

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FIGURE 2A

WOMEN'S WAGE DISTRIBUTION
MASS. BRUSH INDUSTRY, 1911

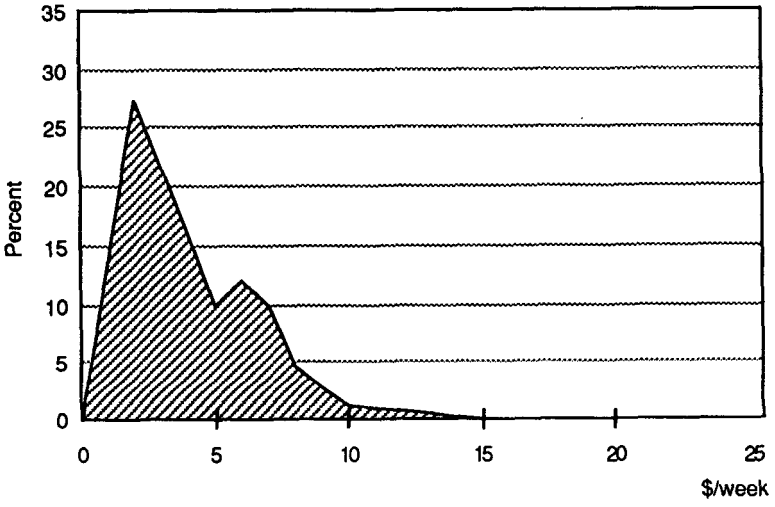

FIGURE 2B

WOMEN'S WAGE DISTRIBUTION
MASS. BRUSH INDUSTRY, 1912

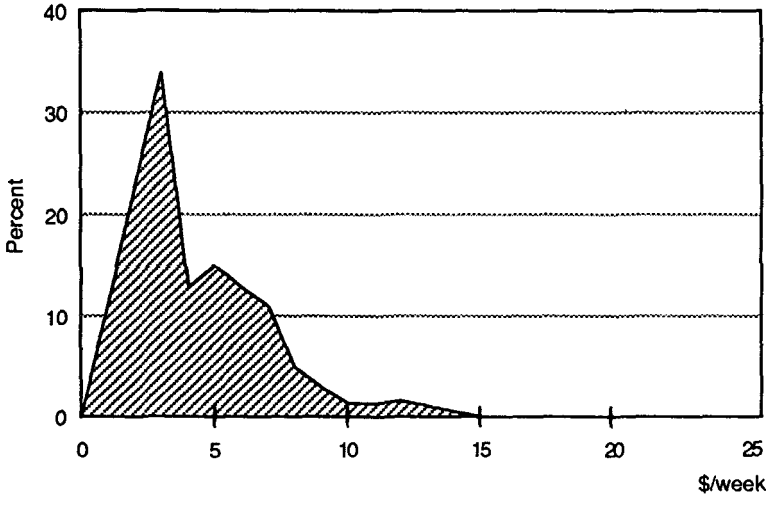

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FIGURE 2C

WOMEN'S WAGE DISTRIBUTION
MASS. BRUSH INDUSTRY, 1913

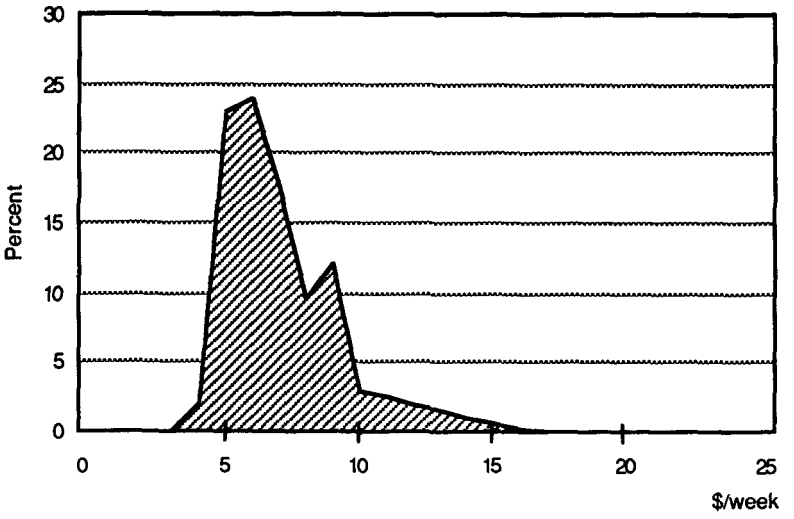
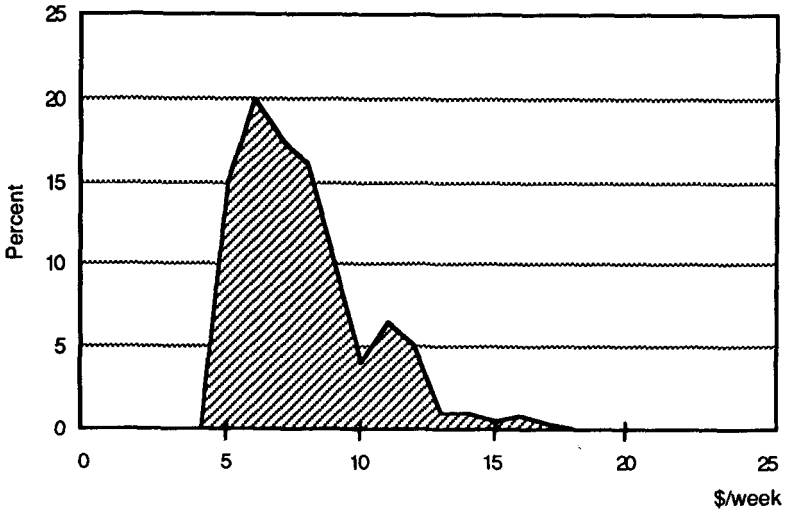


FIGURE 2D

WOMEN'S WAGE DISTRIBUTION
MASS. BRUSH INDUSTRY, 1914



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wage, is a characteristic effect of minimum wage laws. Women workers in the brush industry earning below a certain amount were either given wage increases to that amount or let go. As a result, the mean weekly wage of the remaining women employed in the brush industry in these two years rose to 84 and 90 percent of the mean weekly wage of women employed in all manufacturing industries.

Presuming that minimum wages truncate a normal distribution of wages, Meyer and Wise (1983) analyze a sample of 4,000 16–24 year old non-students drawn from the May 1978 Current Population Survey. They estimate that 23 percent of people who would be below-minimum-wage workers in the absence of a minimum wage law continue to be employed at less than minimum wages (due to limited coverage and noncompliance), 34 percent are raised to the minimum, and 43 percent are unemployed. Indeed, the lower a person's earning ability, the higher is the probability that he or she will be unemployed by a minimum wage.[10]

Obviously, those low-wage workers who lose jobs do not benefit from minimum wage laws. Those whose wages are not increased to the minimum do not benefit either. Indeed, their wages may actually decrease due to the "crowding" of low-wage workers into the non-covered sector.[11] And, even those whose wages are raised to the minimum by the minimum wage law are not necessarily better off. Suppose employers can, at least to some extent, offset mandated increases in wages with reductions in fringe benefits and the quality of working conditions, and—as minimum wage advocates have long argued—that minimum wages put pressure on employers to increase worker productivity. In the face of minimum wage laws, low-wage workers can themselves increase their productivity by investing in additional general or vocational education, or in additional job search.

It is not clear that it is better to force workers to accept higher wages and less in the way of fringes and working conditions, or higher wages and a faster work pace, or higher wages and greater investment in education or job search. Those who respect the decisionmaking ability of low-wage workers would presume—since they could have chosen higher wages and some combination of lower fringes and working conditions, a faster work pace, and greater

[10]Linneman (1982), using a similar model, also finds that minimum wage laws cause significant disemployment of low-wage workers.

[11]See Mincer (1976) and Welch (1974) for analysis of the effects of minimum wages when there exists a non-covered sector.

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investment in education and job search and did not—that they are worse off.

In conjunction with its 1957 minimum wage order, New York State conducted a mail survey of retail stores (New York State Dept. of Labor 1964). Of 7,757 respondents, 6,758 or 87 percent reported some kind of offset to the wages raised by the law. Among these offsets were reductions in daily wage guarantees and other wage premiums, and reductions in fringe benefits. Also, there were reductions in workers' hours, the employment of extras, and meal and rest periods, and changes in work assignments. These offsets are discussed by Wessels (1980, pp. 6–8), who reports a significant positive correlation across stores between the impact of the minimum wage and the number of offsets.

By far, the most frequently reported offset was reduction of employee hours. This was accomplished mostly by eliminating coffee breaks and making sure that work began at starting time and continued through quitting time. Employers were less inclined to pay workers for "slack time" through the day.

Marian Stever (Tolles 1960) monitored the effect of the New York State wage order in 42 retail stores in the cities of Syracuse and Auburn. She found that much of the impact was "avoided" by productivity increases including adjusting hours, revising work assignments, and better selection and training of workers. Those laid off were usually the most relatively inefficient, i.e., the elderly, part-timers, and the handicapped.

Analyzing a theoretical model in which minimum wages force low-wage workers to increase their productivity or be unemployed, Pettengill (1980, p. 1.8) concludes that "virtually all [low-wage workers] are worse off in the long run because of the minimum wage. . . . Moroever, the worst burden is borne by the least able workers, who are already working as hard as they can and cannot upgrade themselves further."

As economists now view them, minimum wages raise wages by truncating the wage distribution, forcing productivity increases from some—those raised from below minimum wages to the minimum—and unemploying others. The observed increase in mean or median wages following a minimum wage is mostly an illusionary benefit. In part, it is a statistical artifact resulting from the unemployment of the lowest paid, the average of those remaining employed being necessarily higher. In part, it is due to the fact that wages are the most tangible and most easily tabulated component of a job. Other components, such as fringes and working conditions, are more difficult to take into account. And their subjective worth to low-wage

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workers may be totally discounted by middle-class social reformers far removed from the scene.

Effects of the First Minimum Wage Laws

Data pertaining to the economic effects of the first minimum wage laws are fragmentary. In spite of the lack of data, advocates of minimum wages were quick to proclaim their success. Generally, if wages rose following the issuance of a minimum wage decree, this was attributed to the decree; and, if wages remained the same or fell, this was attributed to a lack of enforcement. Also, if few women were unemployed following the issuance of a minimum wage decree, this was taken as proof that minimum wages do not cause unemployment; and, if many women were unemployed following the issuance of a minimum wage decree, this was attributed to overall economic trends.

In some cases, minimum wage boards—having no data at all—proclaimed their decrees successful. The Industrial Commission of Wisconsin (1921, p. 65), for example, without *any* data argued that many women were given raises by reason of its wage order and that "there has also been no reduction of opportunities for employment of women." In other cases, minimum wage boards discounted data suggesting there were employment tradeoffs.

In 1913, Oregon issued the nation's first minimum wage decrees. These provided for minimum wages of $9.25 per week for women in Portland, $8.25 outside, and other, lower minimums for learners and girls under 18. The Oregon Industrial Welfare Commission, in its 2nd Biennial Report, stated that its wage decrees raised women's wages and did not result in men taking women's places (*Monthly Review*, May 1917, p. 797). While female employment actually went down, according to O'Hara (1916, p. xv), head of the commission, "when proper deductions are made for the financial depression . . . the general tendencies of the legislation should be apparent."

In 1914, Massachusetts issued a wage decree establishing 16 cents per hour as the minimum wage in the tiny brush industry. The state's Minimum Wage Commission stated that "the decree has been complied with. . . . [T]he increase in wages has been large. . . . The employment of women and minors has not given way to . . . men" (*Monthly Review*, December 1915, pp. 33–36). However, regarding a fall in women's employment, the commission in its 2nd Annual Report (1915, p. 12) said, "The Commission is of the opinion, however, that the unemployment is mainly due to the general business depression rather than to the . . . minimum wage."

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Also in 1914, Washington issued minimum wage decrees covering about 75 percent of women employed in that state. These decrees set minimums of $8.90 per week in manufacturing, $9 in laundry and telephone and telegraph, and $10 in mercantile establishments. In its 2nd Biennial Report, the Washington Industrial Welfare Commission claimed there was "abundant evidence . . . that it has worked to increase the wage level and that . . . the minimum wage has not led to any general or widespread discharge of women" (*Monthly Review*, April 1917, p. 566).

In order to determine the economic effects of these wage decrees, the state conducted a mail survey. Responses were received from 107 employers of 3,358 women. The responses indicated that women's wages increased from an average of $11.64 per week during 1913 to an average of $12.17 during 1914–1915 (*Monthly Review*, April 1917, p. 564). But, while only 21 women were indicated as specifically discharged because of the decrees, employment of women relative to men fell from an average of 59.7 percent during 1913 to an average of 58.1 percent during 1914–1915 (p. 565).

In 1919, a minimum wage decree of $16.50 per week was issued for women working in the mercantile industry in the District of Columbia. The District of Columbia Minimum Wage Commission, in its 2nd Annual Report, stated that its wage decree resulted in "a definite increase" in women's wages "without any considerable replacement of women by men" (*Monthly Review*, April 1920, p. 115). However, a survey of the payroll records of 102 mercantile establishments, employing 68 percent of the women covered by the decree, showed that the number of women employed by these establishments fell from 4,557 before the wage decree to 4,347 after (*Monthly Review*, June 1923, pp. 100–101).

As Table 3 summarizes, retrospective assessments of the first minimum wage laws—two of the three being by writers sympathetic to minimum wages—found many of these laws to have been ineffective in raising women's wages. Even some of these assessments may have been overly generous. Take the case of California. While all three writers state that its minimum wage law was effective, this may not be conclusive.

Elizabeth Braindeis (1935) acknowledges there was no "bunching" of wages at the minimum. As the median (50th percentile) woman's wage rose from $12.35 to $14.35 per week from 1919 to 1925, or by 16.2 percent; the 75th percentile wage rose from $18.20 to $21.25, or by a slightly higher 16.8 percent. Thus, general wage trends, and not so much the minimum wage decrees, may have been responsible.

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TABLE 3

ASSESSMENTS OF THE EFFECTIVENESS OF EARLY MINIMUM WAGE LAWS IN RAISING WOMEN'S WAGES

Location	Braindeis[a]	Women's Bureau[b]	Stecker[c]
Arizona	Ineffective		
Arkansas	Effective	Effective	
California	Effective	Effective	Effective
Colorado	Never Enforced		
D.C.	Effective	Effective	
Kansas	Not Clear	Negligible	
Massachusetts	Not Clear	Not Clear	Not Clear
Minnesota		Not Clear	
Nebraska	Never Enforced		
North Dakota		Not Clear	Effective
Oregon		Not Clear	Effective
Puerto Rico	Ineffective		
South Dakota	Never Enforced		
Texas	Never Enforced		
Utah	Ineffective		
Washington			Effective
Wisconsin		Not Clear	

[a]Elizabeth Braindeis, "Labor Legislation" (1935).
[b]"The Development of Minimum Wage Laws in the United States, 1912–1927." U.S. Dept. of Labor, Women's Bureau (1928).
[c]M. L. Stecker, *Minimum Wage Legislation in Massachusetts* (1927).

Louis Bloch (1924) of the California Bureau of Labor Statistics states that women's wages rose as a result of his state's minimum wage decrees. Nevertheless, his own figures show many women receiving less than the minimum. For example, in the manufacturing industry, 19 percent in August 1920 and 16 percent in March 1922 were receiving less than $16 per week, which was the minimum.

The most significant statistical study of the economic effects of any of the first minimum wage laws was conducted by the Department of Labor. In that study, Marie L. Obenauer and Bertha Von Der Nienburg examined the payroll records of 40 stores in Portland and Salem before and after the Oregon 1913 minimum wage decrees. They found that women's wages rose, but downplayed any effect on women's employment. While admitting that "the dismissal of some women" can be attributed to the minimum wage law, they nevertheless asserted that the law had "not put men in positions vacated by women" (U.S. Department of Labor 1915, p. 9).

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In reexamining these data, Peterson (1959, see also Peterson and Stewart 1969, pp. 86–88) identifies five economic effects: (1) About 21 percent of women were given raises. Average female weekly wages increased by 4 percent while male wages rose less. (2) Female employment fell by 14.9 percent compared to a 7.4 percent decline for males, and in spite of a rising trend in female employment as salespersons and clerks relative to males from the 1900 to 1910 census. (3) Female payrolls dropped relative to male, falling by 7.3 percent compared to 5.0 percent for males. (4) There was considerable substitution of girls for women. (5) Other possible causes (e.g., substitution of males for females during a recession) were dismissed.

The Massachusetts wage decrees, which eventually covered 20–25 percent of the women employed in that state, are not viewed as having been very effective. However, as is discussed above, the first Massachusetts wage decree, in 1914, appears to have raised women's wages in the brush industry.

It is interesting that the Massachusetts brush industry appears to have reacted to the minimum wage law before a wage decree was actually issued. During 1912, Massachusetts passed a minimum wage law, formed a wage board for the brush industry, and conducted a survey of women's wages in this industry. These actions signaled to the industry that a minimum wage was imminent. Well before economists discovered "rational expectations," employers in the brush industry acted upon the signal and did not wait until the decree itself.[12]

Employment trends in all Massachusetts manufacturing industries and in the brush industry are presented in Figures 3 and 4. It appears that the minimum wage decree caused a significant fall in total employment and a relative fall in female versus male employment in the brush industry. Note that the most dramatic change in employment occurred in 1913. As with the wage effect, discussed above, the employment effect preceded the issuance of the minimum wage decree.

M. L. Stecker (1927, p. 139), who conducted an examination of the Massachusetts minimum wage law for the National Industrial Conference Board, notes that the decline of total and female employment that was seen in the Massachusetts brush industry was not exhibited in the New Jersey brush industry. Nor was the decline exhibited in Massachusetts manufacturing industries as a whole.

[12]The Massachusetts Division of Minimum Wages (1921, p. 20) noted other employer action in anticipation of minimum wage decrees.

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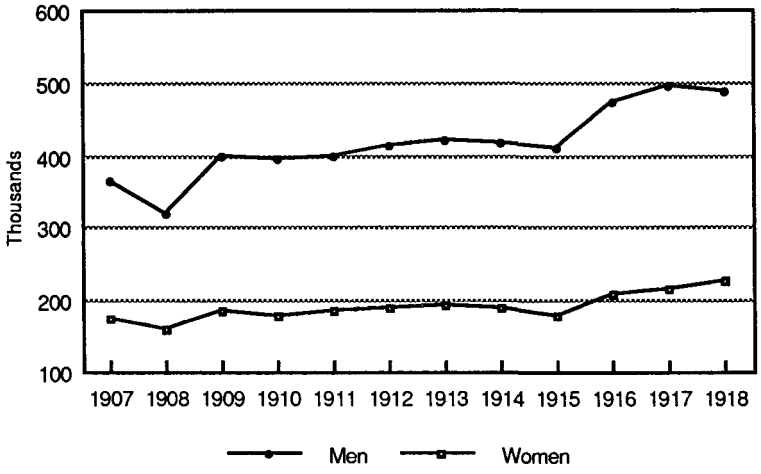
FIGURE 3

EMPLOYMENT IN MASS. MFG. INDUSTRIES, 1907–1918



According to Stecker, "the minimum wage decree was the final blow to the manufacture of cheap brushes by cheap labor" (p. 140).

The Massachusetts minimum wage decrees, when effective, did more than just raise wages by truncating the wage distribution and unemploying the least productive women. Consistent with contemporary minimum wage theory, they also forced increased productivity from low-wage women workers through greater investment in equipment, greater supervision, training and care in hiring, and changes in hours (Stecker 1927, pp. 174–84).

The experience of the first minimum wage laws, where these laws were effective and data exist, is consistent with the contemporary theory of minimum wages. To the extent they raised wages, they forced offsetting productivity increases and left women with the lowest earning ability unemployed. These negative effects were either lost upon or explained away by social reformers, some of whom pronounced minimum wages successful without benefit of any data at all. The cumulative total of data, however, should be persuasive.

"Slow" Workers

Most of the early minimum wage laws allowed subminimums for learners and children, and exemptions for "slow" workers. In princi-

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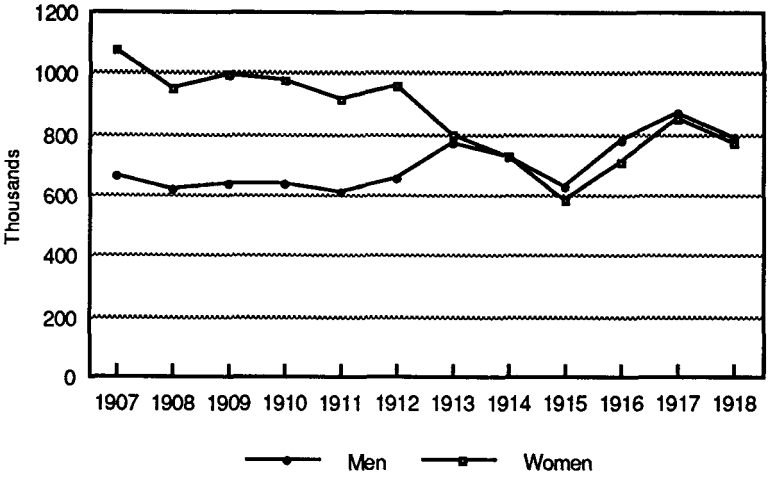
FIGURE 4

EMPLOYMENT IN MASS. BRUSH INDUSTRY, 1907–1918



ple, liberal granting of exemptions could make minimum wage laws practically voluntary. It appears that some states, notably California and Massachusetts, did liberally grant exemptions.

According to the California Minimum Wage Commission (*Monthly Review*, December 1919, pp. 261–66), that state's decree raised wages but did not reduce employment. As is argued above, that wages rose may have simply reflected a general pattern of rising wages. That few if any women were unemployed may have reflected the state's policy of issuing permits to allow "slow" workers to work for less than the minimum. In total, California issued some 2,400 licenses for substandard workers. In comparison, the District of Columbia issued only 87 and Washington only 50 (U.S. Dept. of Labor, Women's Bureau 1928, pp. 278–79). According to Broda, in his review of minimum wage laws, "Slow workers (in California) have not been unemployed because of the law as the commission is generous in meeting the demands of employers to employ women at less than the minimum wage" (U.S. Dept. of Labor, Bureau of Labor Statistics 1928, p. 56). Indeed, following *Adkins*, the California Minimum Wage Commission used permits and discretionary nonenforcement to avoid appeals to the federal courts (Miller 1936).

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In Massachusetts, "slow workers" presented a problem for those employers observing that state's practically voluntary law. "Often these employees are old, or are subnormal in one way or another. For personal reasons they have been kept on at a low wage, but their employment cannot be continued if their wages must be raised. Special licenses take care of some of these, but often neither the employer nor the employee wishes them; in these cases, the commission has waived even this requirement and recorded the case as a 'special license type,' in order to prevent the discharge of older women who would find great difficulty in getting new employment" (Stecker 1927, p. 182).

However, until *Adkins,* minimum wage commissions did not in general liberally grant exemptions. The attitude of certain minimum wage advocates was decidedly utilitarian. The greatest good for the greatest number was for "slow" workers to be denied employment. To quote Sidney Webb (1912, p. 992), "The unemployable, to put it bluntly, do not and cannot under any circumstances earn their keep. . . . Of all ways of dealing with these unfortunate parasites, the most ruinous to the community is to allow them unrestrainedly to compete as wage earners for situations."

Regarding the "crippled, infirm, aged and slow workers who may not be able to earn the minimum," Victor Morris (1920, p. 18), another advocate of minimum wages, stated: "It is a highly desirable outcome that they be segregated from the regular group of employees. They are special cases and should be dealt with separately and not be included simply as a drag on the wage rate of the entire group. They constitute a group largely unable to bargain and under normal conditions without state interference are a dead weight hanging on to the wage rate of the mass of employees."

Henry Seager (1913, pp. 9–10), admitting that "undoubtedly some of the least efficient . . . will be promptly discharged," proposed that those who could not be trained so as to sufficiently increase their productivity "be sent to farm or industrial colonies." Not only would this remove these "social dependents," it would "prevent that monstrous crime against future generations involved in permitting them to become . . . fathers and mothers."

The District of Columbia Minimum Wage Commission (*Monthly Review,* April 1920, p. 115) issued special licenses to some "slow" women to enable them to work for less than the minimum wage but denied licenses to those whom it considered too old or crippled to work, saying that they "must be cared for in some other way."

In its argument defending its minimum wage law before the U.S. Supreme Court, the state of Oregon was explicit: "If Simpson [a

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woman unemployed because of the law] cannot be trained to yield an output that does pay the cost of her labor, then she can either avail herself of the license conditions imposed by statute for such cases, or accept the status of a defective to be segregated for special treatment as a dependent of the state" (National Consumers League 1916, p. A34).

The state of Oregon claimed that "the 'liberty' which Simpson asserts is fictitious, theoretical and against her own interest" (p. A22). This claim assumed that Simpson would not be unemployed by minimum wage legislation, so that her appeal to the court was to protect an irrational choice to work for less. (This discounts any "psychic" value either from nonwage compensating differentials, such as pleasant working conditions, or from contracting as a free agent.) But, as is discussed above, the available evidence suggests this is a false assumption. It is not irrational and, therefore, not a fictitious liberty to choose to work for less than the minimum wage versus to not work.

As the state of Oregon itself indicated, if the state's minimum were a subsistence wage, then the difference between Simpson's wage and the minimum would have to be borne by charity (p. A33). By working for what they can earn, "slow" workers reduce their burden on others and induce voluntary support from their families, churches, and communities. It may not be a coincidence that mass dependency on government charity emerged upon the criminalization of below-minimum-wage work.[13]

Conclusion

Economists today argue that political support of minimum wage laws derives from the self-interest of unionized, high-wage workers.[14] The early minimum wage movement, however, must be seen as essentially ideological and as a rather odd coalition of Christian social reformers and utilitarian socialists. On the one hand, there were those who viewed minimum wages as part of their "preferential option" for the poor, and on the other hand, there were those who viewed minimum wages as a way to separate parasites from the mass of workers. On the one hand, there were those who viewed minimum

[13]However, Charles Murray (1984) does not incorporate the 1960s' extensions of the federal minimum wage to the retail and service sectors in his analysis of "Great Society" social policy.

[14]Silberman and Durden (1976) find that higher unionization in a congressman's district increases his probability of voting for minimum wage legislation. Cox and Oaxaca (1981) find that higher unionization in a state increases the level of that state's minimum wage.

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wages as a means to the end of "decency" for women workers and, on the other, those who viewed minimum wages as part of a policy, including prohibition of child labor and regulation of the hours and working conditions of women's labor, to reserve work for men. On the one hand, there were those who viewed minimum wages as a way of providing a living wage to low-wage workers. On the other, there were those who viewed minimum wages as part of a program of keeping the destitute, including the aged, infirm, widowed, and immigrant, segregated and offshore.[15]

There really can be no wonder that the glue that held this coalition together was the illusion of benefit: that the way minimum wages work is by raising average wages—something easy to observe—at a variety of hard to quantify costs including forced productivity increases and unemployment. Those least able to produce enough to earn the minimum wage would became a new category of poor, completely dependent on government charity, whereas before these were the so-called working poor, dependent instead on the merely supplemental support offered by private charity.

In 1914, in California, the Federation of Women's Clubs advocated ratification of a state constitutional amendment authorizing minimum wages with the slogan, "Let us be our sister's keeper." The slogan is an obvious reference to the Biblical passage, "Am I my brother's keeper?"

This was Cain's reply to God when asked the whereabouts of his brother Abel whom he (Cain) had murdered. While "keeper" is usually interpreted as "guardian," the original Hebrew word can also be translated as "supervisor" and as "jailor." Cain's reply can be paraphrased as "How should I know where my brother is; he's a free man. Are you accusing me of denying him his liberty?" The irony is that worse than being his brother's "keeper" in the sense of jailor, Cain was his brother's murderer.

The irony of the early minimum wage movement is that, in seeking to become "keepers" in the sense of being guardians of the less fortunate, social reformers became their "keepers" in the sense of denying them liberty.

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[15]Kellog (1913, p. 75) states, "It would not be the intent or result of such legislation to pay new coming foreigners $3 a day. No corporation would hire Angela Lucca and Alexis Spivak [i.e., female immigrants of the day] when they could hire John Smith and Michael Murphy and Carl Sneider for less."

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The Development of Aggregate Economic Targeting

Scott Sumner

Beginning with the 1980s, there has been a renewed interest in monetary policy rules aimed at directly targeting economic aggregates. Members of the "new monetary economics" (NME) school, such as Black (1981), Fama (1983), Hall (1983), and Greenfield and Yeager (1983), have proposed nondiscretionary price level stabilization policies. Taylor (1985) and McCallum (1984) proposed monetary policy rules aimed at nominal GNP stabilization. Even more complex policy targets have recently been suggested by Hall (1984, 1986).

This renewed interest in economic aggregate targeting follows a 50–year hiatus, during which time the policy debate focused on interest rate and monetary aggregate targeting. Although both Keynesian and monetarist policy proposals include macroeconomic stabilization as one goal of monetary policy, the more recent NME proposals have gone a step further by directly targeting nominal GNP (Taylor, McCallum), the price level (Fama, Black), or by defining the unit of account in terms that would result in approximate price stability (Hall, Greenfield and Yeager).

Many of these recent proposals bear strong similarities to Irving Fisher's (1920) "Compensated Dollar Plan" to stabilize the price level. In fact, during the period from the 1820s to the 1930s there was great interest in developing a monetary standard with a stable unit of account.[1] Yet despite recent developments in this area, there remains a good deal of misunderstanding as to how these early

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The author is Associate Professor of Economics at Bentley College. He thanks W. William Woolsey and Robert L. Greenfield for helpful comments and suggestions.

[1]In their survey of the precursors of the new monetary economics, Cowen and Kroszner focused heavily on the proposals of populists such as Kitson (1917) and Meulen (1934). Although both writers suggested that their systems would result in a stable unit of account, Sumner (1990) showed that neither system had the sort of nominal anchor required to make their plans operational.

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proposals relate to recent developments in this area. For instance, it will be shown that Fisher's compensated dollar plan (CDP) has been widely misunderstood and that recent economic aggregate targeting proposals often suffer from the same faults as Fisher's plan.

This paper will begin by tracing the history of economic aggregate targeting proposals. It is not meant to be a comprehensive survey but rather will focus on two key issues. We will examine the problems created by targeting an economic aggregate when that aggregate is measured with an information lag. We will also examine recent theoretical work on how monetary policy could be made more efficient by incorporating market expectations into the money supply process. Under these policy regimes, the only role for policymakers is to decide which unit of account is most consistent with macroeconomic stability. The issues involved in defining the unit of account in terms of a macroeconomic aggregate also will be examined.

Early Stabilization Proposals

During the period from the 1820s to the 1930s, the gold standard represented the basis against which proposals for monetary reform were judged. The prevailing view among business leaders was that in order to insure that money had a stable value it was necessary to link the unit of account to a fixed weight of gold (or silver). Within the economics profession, however, support for the gold standard gradually declined as it appeared unable to prevent fluctuations in the purchasing power of money. By the 1920s it was seen less as a bulwark against governmental abuse of fiat currency than as an independent source of economic instability.

A gold standard is, at its most fundamental level, a price rule, albeit one aimed at stabilizing the price of a single commodity rather than an index of prices. Changes in the real price of the standard commodity (gold) are associated with (inverse) movements in the price level. Nineteenth-century economists saw these price level fluctuations as aggravating the business cycle, and also contributing to "unfair" transfers of wealth between debtors and creditors

Jevons (1876) proposed a "tabular standard" that would involve indexing all long-term contracts to the price level. Although his proposal would produce a stable standard of deferred payment, it would do nothing to prevent changes in the purchasing power of media of exchange. The unit of account would continue to be expressed in terms of a fixed weight of gold.

Other economists suggested that the problems created by fluctuations in the real price of gold could be alleviated by linking the unit of

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account to a basket of commodities. One plan, dubbed symmetallism, would tie the unit of account to a specified weight of gold plus a specified weight of silver. Symmetallism should not be confused with bimetallism where *either* gold or silver serves as the unit of account. It is symmetallism that would become the precursor of all modern price rule proposals.

Both Marshall and Edgeworth agreed that while symmetallism would be preferable to a simple gold standard, stabilizing the price of a more comprehensive basket of commodities would be better still. As one expands the number of commodities in the unit of account, however, the problem of convertibility becomes more difficult. Milton Friedman (1951) argued that for goods to be included in the currency unit, they needed to be "standardized, traded in broadly based markets, supplied under reasonably competitive conditions, and physically and economically storable." Unfortunately, the list of commodities that would meet these restrictive criteria is not necessarily representative of the much larger basket of commodities from which the Consumer Price Index (CPI) is computed.

Perhaps the most ingenious of the prewar price rules was Fisher's compensated dollar plan. Fisher proposed that the price of gold be periodically adjusted to offset changes in the price level. For each 1 percent increase in the price level, there would be a 1 percent increase in the number of grains of gold in the unit of account (i.e., a 1 percent decrease in the price of gold). This would insure that the purchasing power of one dollar's worth of gold would remain stable over time. A major advantage of the CDP over symmetallism is that the commodities composing the standard of value need not be storable.

Although Fisher was unaware of it at the time, a number of earlier economists had anticipated his proposal. The CDP of Aneurin Williams (1892a) differed from Fisher's plan in that it targeted a relatively narrow range of commodity prices. Giffen (1892) noted that Williams' plan could lead to destabilizing speculation prior to the announcement of changes in the index. In response to Giffen's comments, Williams (1892b) suggested that the government could compute a new price index each night. He also noted that "it does not follow that every figure must be changed every night. Those which could not be ascertained afresh would be put in at the same as last time" (p. 748).

Fisher (1920) went even further than Williams by proposing that the Wholesale Price Index (WPI) as calculated by the Bureau of Labor Statistics be used as the basis for (bimonthly) adjustments in the gold value of the dollar. Because the WPI is not continuously

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updated, its use in the CDP would result in discrete jumps in the price of gold. For instance, if market participants expected a decrease in the price level, then there would be a huge speculative demand for gold immediately prior to the announcement of the WPI. To prevent this sort of destabilizing speculation, Fisher suggested that a "brassage" charge of 1 percent be imposed on gold transactions with the mint.

In 1922 Congressman Goldsborough introduced a bill that would implement a CDP essentially identical to the Fisher proposal. In his testimony at the hearings, Willford King suggested that a retail, rather than a wholesale, price index be used to adjust the price of gold. He also suggested that the brassage charge should be set at a level to insure that it was always larger than the change in the gold weight of the dollar (or the price level).[2]

Hawtrey (1947) saw the brassage charge as the Achilles' heel of the CDP. He argued that under Fisher's proposal "price movements, however, might be much more rapid than 1 per cent. per month, and if the gap between buying and selling prices were made wide enough to offset any probable price movement, the plan would cease to work automatically" (pp. 225–26). Sumner (1990) showed that if the brassage charge were made large enough to avoid destabilizing speculation, then the CDP would essentially become a money supply rule with feedback. Adjustments in the price of gold would play no role in the process. The brassage charge would allow the official price to diverge from the free market (or foreign) price of gold. Although Fisher's CDP has been compared to a crawling peg exchange rate regime, that comparison is actually more applicable to the Williams proposal.

During the interwar years a number of prominent economists such as Hawtrey (1919) and Cassel (1921) advocated a price stabilization plan that would involve central bank cooperation in the context of a gold exchange standard. As deflationary pressures intensified, however, more and more economists came over to support the concept of a completely managed currency such as Wicksell (1919) and Keynes (1923) had proposed. Fisher seems to have been aware of the redundancy of including gold in his plan, but believed that without any metallic backing, political pressures would have led governments to overissue currency.

There are a number of misconceptions regarding the operation of a CDP. Giffen suggested that Williams was proposing the adoption

[2]*Hearings* before the Committee on Banking and Currency, 67th Congress, 4th Session on H.R. 11788, p. 61.

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of a tabular standard along the lines of the Jevons plan. While both systems would provide a stable standard of deferred payment, only the CDP would also stabilize the purchasing power of the unit of account. The tabular standard would simply adjust contracts for changes in the price level. In contrast, the CDP was designed to eliminate the need for indexation.

The New Monetary Economics

The 1920s represent the high point of the stable money movement. Many contemporary economists believed that the sharp deflation of 1920–21 had aggravated the depression of the same year.[3] A poll of economists in 1927 showed that 252 of 281 respondents supported the concept of price level stabilization, while 70 favored adoption of a CDP.[4]

One would have expected the sharp deflation of the early 1930s to give the stable money movement a boost. Yet despite President Roosevelt's support for the concept of price level stabilization, interest in price rules declined sharply after the mid-1930s. This lull lasted until the 1980s, when the ideas of Fisher were revived by the proponents of the NME.

In retrospect, it seems clear that the length of the depression contributed to the demise of the stable money movement. Although the deflation ended in 1933, full recovery from the depression took eight more years. The extremely low nominal interest rates during this period further reinforced the view that monetary policy was ineffectual.

Along with the resurgence of inflation during the 1970s came a renewed interest in monetary policy rules. Monetarist policy proposals differed from earlier stable money plans in that they involved the targeting of monetary aggregates rather than price indices. Milton Friedman (1961) argued that even though price or output stabilization may be intrinsically more desirable than stable monetary growth, the problem of lags rendered a money supply rule the most effective method of reaching these broader policy goals.

During the early 1980s, financial deregulation and unstable interest rates contributed to erratic fluctuations in the velocity of

[3]De Long and Summers (1986) argued that greater price flexibility may actually be destabilizing. They also argued that several interwar theorists including Fisher had reached a similar conclusion. This interpretation seems to confuse price flexibility with price instability. Although Fisher supported monetary policies aimed at achieving price level stability, he opposed price-fixing schemes such as the National Recovery Act, which he termed the "National Retardation Affair" (Fisher 1956, p. 282).

[4]See Fisher (1928, p. 201).

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circulation. This led to some dissatisfaction with monetary targeting and a renewed interest in price targets. Hall (1982) advocated a symmetallist system, in which the four commodities backing the currency (aluminum, copper, plywood, and ammonium nitrate) were selected because their composite price closely mirrored the overall cost of living during the postwar period.

Black (1981) proposed a CDP similar to the Fisher proposal. Black's plan called for the government to hold "near zero reserves" of gold, an implicit recognition of the redundancy of gold in Fisher's system. Fama (1983) suggested deregulating the banking system and controlling the price level through a feedback rule for the currency stock. As noted earlier, this would be operationally equivalent to a CDP with a prohibitive brassage charge.

Greenfield and Yeager (1983) dubbed the proposals of Black, Hall, and Fama the "BHF system." They went somewhat further in arguing for complete deregulation of the monetary system, and the creation of an abstract unit of account that would be separate from the (privately issued) media of exchange. The unit of account was to be linked to the price of a broadly defined basket of commodities, measured on a given day.

In a more recent paper Greenfield and Yeager (1989) argue that, even with an abstract unit of account, a determinate (and stable) price level could be assured as long as the dollar's gold content was adjusted in proportion to changes in the price of the standard commodity bundle.[5] They went even beyond Williams in arguing that, with modern technology, these adjustments could occur almost continuously. It is not clear, however, whether Greenfield and Yeager propose stabilizing an index of actively traded commodities (as with the CDP of Williams) or a broad index such as the CPI, which might be difficult to measure continuously.

The central dilemma of targeting economic aggregates such as the price level is that if the currency is directly backed by a commodity reserve, then the real value of that commodity reserve may fluctuate. If the government attempts to target the general price level, then the existence of an information lag will necessitate the adoption of a monetary feedback rule. And even if the CPI could be monitored continuously, the information lag would continue to be a problem

[5]Greenfield and Yeager (1989, p. 419) argue that "adjustments in the dollar's gold content should be made in view not only of incipient changes in the target price index but also of changes in the price of gold itself." This statement appears to involve a redundancy since adjustments based on incipient changes in the target price index should, by themselves, be sufficient to maintain price level stability.

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for proposals aimed at targeting more complex aggregates, such as nominal GNP.

A seminal paper by Hall (1983) proposed a way out of this dilemma. Under his system, interest-bearing reserve certificates (RCs) would serve as the unit of account. What makes Hall's proposal distinctive is that the interest on the RCs would contain two components. One part would be fixed at a rate slightly below the T-Bill rate. The second component would be indexed to the price level. This would cause the demand for RCs to be highly sensitive to changes to the price level. An increase in the expected future price level would increase the demand for RCs and, since RCs also serve as the unit of account, automatically tend to offset the inflationary impulse. Hall's paper also contains several other items on the NME agenda, such as the abolition of reserve requirements and the legalization of private currency issue.

Unfortunately, the radical nature of Hall's proposals seems to have obscured his most important innovation: a policy rule capable of stabilizing a comprehensive price index without the need for policy feedback by the monetary authority. In a comment on the paper, Stockman (1983) noted an inconsistency in Hall's argument. Hall had argued that efficiency gains could be realized by saturating the economy with monetary instruments. Yet if RCs served as the medium of exchange, then the transactions costs of paying interest would become burdensome. And if only a few institutions held RCs, then the "optimum quantity of money" argument would have little relevance. Fortunately, these micro-efficiency issues can be easily separated from the problem of targeting the price level.

The advantage of Hall's proposal lies in its utilization of market expectations of future inflation. Sumner (1989) showed that this improvement could be achieved with relatively little modification of our current monetary system if the monetary authority were simply to target a futures price linked to future values of the economic aggregate being targeted. For instance, suppose the monetary authority wishes to target next month's CPI at 100. One approach would be to create a futures instrument with a face value equal to next month's CPI, and a maturity date at the government announcement of the index (which, due to the information lag, would occur during the following month). The Fed would then agree to buy or sell unlimited quantities of CPI futures, on demand, at a price of 100. If market expectations of next month's CPI rose above 100, then investors would purchase additional CPI futures. This would represent an open market sale by the Fed, and would continue until the money supply was reduced enough to bring the expected price level back

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down to 100. Similarly, the expectation of a lower price would lead the public to sell CPI futures, and would automatically expand the money supply.

If the Fed were to attempt to peg prices that had already been measured, then the money supply would become indeterminate. Therefore, trading on this contract would continue until the government began collecting price data for the target month. At that time the Fed would repeat the procedure for the following month. If the market expectation of next month's price level were equal to the price of CPI contracts, then it would also be equal to the target CPI. Thus, one criterion for an efficient monetary policy would be to construct the futures market in such a way as to minimize the risk premium in the price of the CPI contract. One way the risk premium could be reduced would be to have the Fed undertake parallel open market operations in Treasury securities to avoid having the public take a significant net long or short position.

As would Hall's proposal to use indexed RCs, Sumner's futures instrument price targeting scheme would use market expectations to help control the price level. The difference is that under a system of futures targeting, market expectations would affect the price level through shifts in the money supply, rather than money demand.

These futures targeting proposals provide support for Benjamin Friedman's (1975) finding that intermediate targeting is generally inefficient. Friedman's conclusion, however, was based on the improbable assumption that the monetary authority is able to identify the optimal money supply feedback rule. Neither futures instrument price targeting nor Hall's RC standard would rely on the Fed's having any special knowledge regarding the structure of the economy. Monetary policy would be determined by the marketplace.

There remain a number of issues relating to policy credibility that could hamper the operation of a price rule. Most of these issues, however, must be faced by any policy proposal that aims to provide a nominal anchor to the economy. And futures targeting could actually improve policy credibility by allowing individuals the opportunity to profit from discrepancies between the announced goals and the performance of policymakers.

Alternative Economic Aggregate Targets

In adddition to the largely technical problem of dealing with the information lag, there is also a more fundamental theoretical problem of choosing the economic aggregate target most closely linked to the goals of monetary policy. Although the price level is the most

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frequently proposed economic aggregate target, a number of other aggregates have been receiving increasing attention.

John Rooke (1824) anticipated Fisher's CDP by nearly a century. As with the Fisher plan, Rooke advocated varying the weight of the currency unit (the pound sterling) inversely to changes in the value of money. Because Rooke believed that commodity prices were subject to too many nonmonetary influences to provide a stable unit of account, he suggested targeting an index of wage rates rather than prices. It is worth noting that comprehensive price indices such as the CPI did not exist in 1824. And even if they had, it is not at all clear that the optimal price index for measuring the cost of living would also represent the optimal policy target.

Rooke's plan would allow the price level to move inversely to the marginal product of labor. Selgin (1990) surveyed a number of early proposals to establish a "productivity norm." The term "productivity norm" includes a variety of closely related policies that would allow the price level to vary inversely to either the marginal product of labor (a wage target), the average product of labor, or the level of real GNP (a nominal GNP target).

Selgin showed that during the interwar period the productivity norm was a popular alternative to the price rule. Hawtrey (1930) argued that a productivity norm would provide greater macroeconomic stability as increases in productivity would not be allowed to boost "consumer outlay" (i.e., aggregate demand), and vice versa. He also argued that a productivity norm would allow for greater debtor-creditor equity since individuals on fixed incomes would share the gains and losses from productivity changes.

From a modern perspective it is clear that the productivity norm would be more accommodative to aggregate supply shocks than would a simple price rule. For instance, under a productivity norm the price level would be allowed to increase when an adverse supply shock occurred. This attribute has made the idea of a productivity norm popular among modern economists who worry about wage and price inflexibility. For instance, Taylor (1985) and McCallum (1984) advocated using monetary policy rules to target nominal GNP. Barro (1986) noted that price rules tend to be preferred by New Classical economists on micro-efficiency grounds, whereas economists who believe that wage and price stickiness contributes to the business cycle tend to prefer nominal GNP targeting.

It is interesting to compare the modern GNP targeting proposals of Taylor and McCallum to Rooke's wage targeting proposal. One potential disadvantage of Rooke's plan is that, unlike the Taylor-McCallum approach, under wage targeting nominal GNP would

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presumably be procyclical (assuming employment was also procyclical). Yet Rooke's plan also would offer some advantages to economists who worry about wage stickiness.

Consider an economy described by Fischer's (1977) model featuring overlapping nominal wage contracts. If long-term wage contracts are the source of suboptimal employment fluctuations, then policymakers may want to use monetary policy to minimize the difference between the actual aggregate wage and its (Walrasian) equilibrium value. When the economy is subject to an adverse supply shock, the equilibrium real wage will usually decline. If the monetary authority is targeting the price level, then nominal wage rigidity will cause the aggregate real wage to remain higher than its equilibrium value, thus increasing unemployment. Under a wage-targeting scheme, the monetary authority would allow the price level to increase enough so that bargaining units would negotiate new wage contracts at the (constant) aggregate nominal wage target. By targeting nominal wages, Rooke's plan would minimize the adjustment costs of moving the aggregate nominal wage rate to a new equilibrium value. By allowing the price level to fluctuate, real wages would be able to adjust smoothly to macroeconomic disturbances, even if nominal wages were sticky.

Hall (1984) also uses a disequilibrium model to analyze the tradeoff between the twin goals of price stability and employment stability. He described a policy frontier that represented the lowest combination of price level and unemployment variability. (The frontier describes variances and should not be confused with a Phillips Curve.) A policy was defined as "efficient" if it placed the economy on the policy frontier.

Hall went on to advocate a policy of "elastic price targeting" whereby the Fed would peg ($P - A^*U$) at a constant level. (P represents the price level and U represents the unemployment rate.) The coefficient on unemployment (A) could be varied depending on the relative preferences of the policymaker toward price and unemployment stability. (Given Okun's Law, a value of 2.5 to 3.0 would be equivalent to a nominal GNP target. Hall argued that there was no particular reason to suppose that a nominal GNP target was optimal and instead proposed that the coefficient on unemployment be set at 8.0.) Those who worry more about inflation, or who do not believe that any perceived monetary policy can affect U, are called "hawks" by Hall, and would prefer a low coefficient on unemployment.

In a comment on Hall's 1984 paper, Tobin (1984) argued that this type of policy might prove inadequate if the slope of the Phillips Curve were flatter than what Hall had estimated. Yet under Hall's

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system, if unemployment variability turns out to be higher than had been estimated, so will price variability. Hall (1986) noted that if the unemployment coefficient accurately reflects the slope of a social indifference curve relating price and unemployment variability, and if these curves are homothetic, then new information pertaining to the slope of the Phillips Curve should not necessitate a revision of the policy target.

It would be possible to construct an elastic price target even if the social indifference curves were not homothetic. If the social indifference curves became steeper at higher levels of price and unemployment variability, then the target could be set at $(P - A^*U - B^*U^2)$. In principle, the target should reflect the social loss function associated with price and unemployment variability.

Conclusion

The last 165 years have seen the development of both simple and "elastic" price level targets. Although price stability is one goal of almost all policy proposals, neither traditional Keynesian (interest rate) nor monetarist (money supply) policy tools provide an efficient means of keeping the price level at a predetermined level.

The existence of an information lag complicates the operation of a price rule. Symmetallist standards avoid this problem by restricting the standard to those commodities whose price is observable contemporaneously. Unfortunately, fluctuations in the real price of the standard commodity bundle would then generate aggregate price level fluctuations.

Most proposals for targeting the overall price level have relied on a money feedback rule (albeit sometimes well disguised as in the case of the CDP with a prohibitive brassage charge). Because they ignore market expectations, policy feedback mechanisms are inefficient. Either Hall's plan to link the unit of account to indexed RCs, or futures instrument price targeting, would provide a method of incorporating expectations into policy.

One advantage of these new, market-oriented, policy proposals is that they clearly separate the strategic issue of which variable to target from the technical issue of how best to target the variable. Because these proposals are more efficient than intermediate targeting policies, they would allow policymakers to focus on the question of which aggregate is the most appropriate target of monetary policy. In principle, the targeted futures contract could be linked to any nominal economic aggregate.

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Option Clauses and Bank Suspension

Kevin Dowd

The recent revival of interest in "free banking" has led economists to reexamine a number of monetary issues that had previously been considered closed. One of these is the issue of the optimal convertibility contract between banks and their liability holders. For a long time economists have tended to take for granted that the optimal contract requires banks to redeem their liabilities on demand by the public. They have assumed, furthermore, that alternatives to these redemption-on-demand contracts should also be prohibited. Recent work suggests, however, that the redemption-on-demand contract might be inferior to an "option clause" contract,[1] which allows an issuing bank to defer redemption under certain conditions. These conditions would normally specify a maximum period for which redemption could be deferred, and a compensation rate of interest that would be paid to noteholders whose demands for redemption were deferred. Option clauses give note-issuing banks that operate on fractional reserves an effective means of protecting themselves against bank runs[2] that they might otherwise be unable to withstand. Such clauses are therefore a potentially important stabilizing factor in the financial system.

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The author is a Lecturer in Economics at the University of Nottingham and a Fellow of the Durell Foundation. He thanks the participants at the Money Study Group (London), Charles Munn, and especially Kurt Schuler for their helpful discussions and correspondence. The usual caveat applies.

[1]Option clauses are discussed by Meulen (1934), Checkland (1975), Munn (1981), White (1984), Schuler (1985, 1988), Cowen and Kroszner (1988), Dowd (1988), and Chappell and Dowd (1988). Dowd (1988) also attempts to model option clauses using indifference curves, and Chappell and Dowd (1988) model them using an application of queuing theory. Gorton (1985) outlines a model of bank suspension that can be applied to the option clause issue, although he does not use it to analyse option clauses.

[2]In this context, a "bank run" can be considered as a demand to convert banknotes into the redemption medium which the banks have not the reserves to meet.

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The attraction of option clauses is that they avoid the disadvantages of "full convertibility"[3] on the one hand, and meeting bank runs by government intervention to suspend convertibility, on the other. Convertibility on demand is unattractive for several reasons: it forces the banks to hold relatively large reserves, and thereby restricts their ability to lend; when the banks do lend, it forces them to lend against relatively short-term, marketable securities; the need to protect banks' reserves during panics can lead them to hoist interest rates and thereby aggravate a panic; and the public's knowledge that the banks have not the reserves to meet large unanticipated demands for redemption creates the possibility of self-fulfilling bank panics in which the public's fear that the banks will default leads them to demand redemption and bring about the very suspension they feared. Government intervention to suspend convertibility is also unattractive: it violates the contracts banks made with their noteholders; it eliminates the mechanism that previously existed to check over-issues; there is no immediate economic incentive to resume convertibility, and it usually takes political pressure to do so; and the *expectation* of legislated suspension can itself provoke a bank panic.

The Adoption of Option Clauses

A good starting point is to consider the position of banks that operate on fractional reserves[4] and issue fully convertible notes. Given that not all their assets can be liquidated at low cost at short notice, the fractional reserve means that the banks can only redeem a proportion of their notes over any given short period. Given advance notice, they could redeem more, but they would not get such notice in practice. At the same time, the full convertibility of their notes means that the banks are legally obliged to redeem *all* the notes presented to them. There is therefore a possibility that a bank might be unable to honor a note, even if the bank is still sound.[5] If this were to happen, the bank would be liable to the legal penalty for default—

[3]"Full convertibility" is where banks are compelled to redeem their notes on demand against a given weight of the redemption medium.

[4]If banks observe 100 percent reserve ratios, of course, then they can meet any demands for redemption made upon them. Such a "warehouse bank" would not be able to lend, however, and it would have to charge depositors fees to look after their deposits. It is reasonable to suppose—and consistent with the historical evidence—that depositors prefer fractional reserve banks because they would issue notes without charging fees, and would offer them interest on their deposits.

[5]A sound bank is one whose assets are at least as great as its liabilities. Normally, when we refer to a sound bank we also assume that its assets are significantly greater than its liabilities, so that there is no particular danger of its creditors suffering losses, at least in the near future.

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a situation the bank would want to avoid. As Meulen (1934, pp. 81–82) explains:

> The efforts of the bankers to invent methods for reducing the number of demands upon them for gold are interesting and of high importance. In Scotland, where in the early eighteenth century considerable freedom for banking experiment was permitted, the danger to home credit which sprang from a sudden conversion of a considerable quantity of notes was early noticed. The danger lay in the suddenness of the demand: the banks could have obtained gold had they been apprised some time previously. The demand was usually quite unconnected with any decrease of confidence in the stability of the bank thus attacked. . . . Accordingly, the early Scottish bankers introduced the note with the option clause. . . . The bankers publicly announced the reason for the innovation; and, as soon as their customers saw that no reckless issues were made, they accepted these notes at par.

For the option clause to be accepted, however, it is not enough that the banks alone prefer them. With free entry to the banking industry, the banks would not be able to force the option clause on the public against their will. If they tried, new banks could simply enter the market and offer them the fully convertible notes they preferred, and the banks issuing option clause notes would lose their market shares. The public must therefore be persuaded that the option clause is at least as beneficial to them as the full convertibility note contract.

There are three reasons why the public might prefer the option clause contract. (1) The exercise of the option clause increases their claims on the bank's assets. (2) By providing the banks with a legal means of suspension, appropriately designed option clauses can eliminate the possibility that sound banks would default.[6] (3) Following from this, the option clause would reduce the pressure on the public to participate in bank runs, and make bank runs both less likely and less damaging (to everyone concerned) if they do occur.

The Stabilizing Effects of Option Clauses

When notes are fully convertible, noteholders might rationally fear capital losses if their bank suspended. They would anticipate that a panic might force a bank into firesale losses and an eventual default that threatens its solvency, and therefore impose losses on its remaining creditors. This gives noteholders an incentive to run on the bank

[6]Banks might suffer some "firesale losses" as they sell assets for gold, of course, but we would normally expect sound banks to maintain an adequate "capital cushion" to protect themselves against unexpected capital losses.

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if they are sufficiently fearful that a run might start, and therefore makes fears of bank runs potentially self-fulfilling. With the option clause, on the other hand, those noteholders who failed to be first in line would lose nothing by the suspension of convertibility,[7] provided only that the solvency of the bank was not called into question. In fact, they would actually gain if the bank suspended and then had to pay them compensation. At the margin, a noteholder would be *less* likely to run if he thought others might run—the prospect of compensation would encourage a noteholder to *defer* redemption in the hope that others would force the bank to suspend.[8] This discourages redemption and makes suspension less likely. Hence, the option clause helps to convert speculative demands for redemption from the destabilizing force they are under full convertibility to a stabilizing force that protects the banks' reserves when they are run down.

In addition, if the banks (as a whole) were faced with large demands for redemption, then we might expect the demands for redemption media ("gold") to be reflected in falls in the price of "gold bills."[9] Since the spot market price of gold is fixed (in terms of banknotes), other market prices presumably have to adjust to equilibrate the (spot) market for gold. A plausible candidate is the futures price of gold, or the price of gold bills. As the demand for spot gold continues to rise, the price of bills would fall to encourage holders to lend it and to discourage spot demands. The price of these bills would fall below normal, and therefore offer prospective profits to those willing to buy bills (i.e., lend gold) and penalize those wishing to sell them. Gold would still be available on the market, but those who wanted it would have to pay an appropriate premium for it.

The question is how low the price of these bills would have to fall to satisfy the higher demands for gold. If it continued to fall, and banks had the option clause, there would come a threshold point at which the banks would suspend convertibility. The falling price of bills implies a rising gold interest rate, and the banks would suspend when that interest rate began to increase beyond the interest rate they would have to pay if they suspended convertibility. Once that point had been passed, the banks could make a profit by suspending and effectively borrowing from the public at a fixed interest rate (i.e., the compensatory rate they would have to pay noteholders), and then

[7]See also Cowen and Kroszner (1989, p. 5): "By providing for orderly suspensions with an interest 'bonus' for *not* being first in line, instability due to runs was reduced [by option clauses]."

[8]These claims are proved in Chappell and Dowd (1988).

[9]A "gold bill" is simply a promise to pay gold in the near future.

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lending out their gold reserves. The public would be able to calculate when the banks would intervene, and rational speculators would appreciate that this intervention would almost certainly stop the price of gold bills from falling further. By this stage, also, those who continued to sell gold bills would be well aware of the risk they were taking—the risk that the market would suddenly correct itself and that they would suffer capital losses. Even if they could maintain the momentum of falling prices, they would become increasingly nervous about when the market would turn. The slightest rumor might trigger the turnaround. In these circumstances, the banks' *anticipated* intervention when bill prices hit the threshold point ought to be more than sufficient to break the price fall. The bear speculators would almost certainly cut and run before the banks intervened, and the price of gold bills would fall to normal. It would be the *threat* of intervention, rather than the intervention itself, that would stabilize the market. This shows how effective option clauses can be even if they are never invoked.

Now consider what happens if the banks do not have the benefit of the option clause. As demands for redemption grow, the public would be more likely to expect suspension, as discussed earlier, and this would encourage further, preemptive demands for redemption. Such demand would be encouraged even more by the rising interest rate on gold. This interest rate represents the opportunity cost to the public of holding non-interest-bearing notes. As it rises, the public would economise on note-holdings and convert notes into gold to purchase gold bills. If these demands continued, the banks would have no choice but to keep selling gold bills to obtain gold with which to redeem their notes. Apart from being expensive to the banks, there is no guarantee that even then the banks could continue to meet demands for redemption and avoid default.[10] The public would appreciate this, of course, and this knowledge would make them even more nervous about the demands for redemption turning into a major bank run.

Even if the banks manage to avoid default, the absence of any stabilizing intervention by the banks would combine with the tendency of the demand for redemption to feed on itself to produce a higher gold interest rate than would have occurred with the option clause. This means higher interest rates generally, since arbitrage

[10]To appreciate this, one has only to observe that the demand for bank notes is not limited by the stock of gold. Hence, there is nothing to stop the banks issuing claims for gold in excess of the stock of gold. They would not then be able to honor all their notes.

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operations would ensure that the higher gold interest rates pulled up other interest rates as well. This makes credit more expensive and possibly more difficult to obtain. This in turn encourages firms to dump assets and commodities on the market, and depress prices. The tighter the credit squeeze becomes, the more prices will fall, and the more businesses will fail. This applies to banks as well as to other businesses, and banks might indeed be more vulnerable than most other firms. Banks' assets are less marketable than their liabilities, and they tend to be more sensitive to market interest rates. Consequently, a large rise in interest rates will reduce a bank's net worth, and a sufficient rise could wipe it out entirely.[11]

Objections to the Option Clause

Two principal objections have been made about the option clause. One is that the exercise of the option clause harms those who would have preferred to redeem their notes. This point seems to be the source of Adam Smith's objections to the option clause.[12] He noted that

> during the continuance of this abuse [i.e., the exercise of option clauses], while the exchange between London and Carlisle was at par, that between London and Dumfries would sometimes be four per cent. against Dumfries, though this town is not thirty miles distant from Carlisle. But at Carlisle, bills were paid in gold and silver; whereas at Dumfries they were paid in Scotch bank notes, and the uncertainty of getting those bank notes exchanged for gold and silver coin had thus degraded them four per cent. below the value of that coin [Smith (1776) 1911, pp. 290–91].

Against this, however, one might point out that most banknote holders want the notes to affect everyday transactions, not to export gold. Even if the market price of gold floats upward, and they have the

[11]Apart from the "cyclical" benefits of option clauses discussed in this section, option clauses also have "secular" benefits. Since they provide banks with additional protection against demands for redemption, they enable banks to reduce their reserve holdings, and thereby increase their lending and their expected profits. The increase in lending, in turn, promotes economic activity and helps to reduce interest rates. The protection of the option clause also relaxes the constraint against longer-term lending, and lending against less "marketable" assets. The premium on short-term, marketable assets is then reduced. Credit becomes more generally available as well as cheaper. Note that option clauses are good in this context not because they increase credit per se, but because they provide private agents with a voluntarily agreed upon means of doing so. The increased credit is not to be confused with any inflationism.

[12]As Smith went off on the "grand tour" with his pupil the Duke of Buccleugh in February 1764, one must wonder how much of his opinion on option clauses was based only on hearsay.

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option to "buy" gold from the banks at a fixed price, most members of the public will not exploit this arbitrage opportunity because the costs (in terms of time and effort) will make it unworthwhile to do so. These people would have little reason to demand gold even though it had become more valuable. Their main concern would be that their notes continue to be acceptable in day-to-day exchange, and there would be no reason why other people—apart from would-be specie exporters—should refuse to accept them at the usual rates of exchange against commodities. The notes would therefore continue to be generally acceptable even when there is a "shortage" of gold. With notes that are fully convertible, on the other hand, the public can no longer be confident that the banks will avoid default when gold becomes scarce, and their knowledge of the banks' vulnerability might make them wary of accepting notes in a crisis.

In addition, one might also point out that those who wished to retain the right to demand gold at all times could always refuse to accept the option clause. If someone accepts a note with an option clause, then he accepts the "risk" that the option might be exercised and prevent him from making arbitrage profits on the gold market. If he accepts the note, he judges the benefits to be greater than the costs, ex ante, and he must accept the outcome if it is the "unlucky" one where the option is exercised.[13] In any case, the chances of the option actually being exercised are likely to be extremely remote.

A second objection is that it is possible that a bank might exercise the option to "buy time" to take wild risks at noteholders' expense to salvage an otherwise insolvent institution. The argument would be that bank management would have nothing further to lose if the risks failed, and much to gain if they succeeded, and therefore management might take risks that would otherwise have been avoided. In response to this, one might suggest that if potential noteholders felt that this was a sufficiently serious danger, they could simply refuse to accept the notes, and the banks would have to continue providing fully convertible notes instead. However, the history of Scottish banking in the early 18th century suggests that noteholders were willing to accept this risk. In any case, if

[13]Of course, there is no guarantee that a noteholder who wanted a fully convertible note would find a bank that was willing to issue him one, and if a bank did issue such a note, it may charge for it. Alternatively, noteholders might protect themselves against shortages of gold by accepting option clause notes and taking out options to buy gold, but they would obviously have to pay for the options. Such noteholders would "lose" from the innovation of the option clause, but their position is analogous to that of any other group that "loses" when faced with an industrial innovation that is accepted by the majority of the public because it benefits them.

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noteholders were sufficiently concerned about this possibility to refuse to accept the option clause contract offered by the banks, the banks' shareholders could always offer to accept "extended liability" for the banks' debts in the event that the option were exercised. An additional clause would be inserted into the banknote contract stating that shareholder liability would increase if the option were exercised. Even if the bank was perceived to have a low net worth, the exercise of the option clause would simultaneously increase the bank's capital, and the shareholders would risk their own capital if they allowed their management to take excessive risks. The public would appreciate this and could assume that the shareholders would write contracts with their managers to discourage this kind of risk-taking. The shareholders, for their part, would be willing to accept additional liability if it was the price to be paid to get the public to accept the option clause, and if the option clause was sufficiently valuable to them.

Government-Imposed Suspension

An alternative to the market-based suspension of the option clause is for the government to intervene to order (or allow) suspension. An unanticipated government-imposed suspension in a crisis would eliminate the panic demand for gold, reduce interest rates, and make the crisis abate. But even in this favorable case where the suspension is not anticipated by the public, the government-imposed suspension creates other problems that suspension under the option clause avoids. It retroactively rewrites the contract under which the banks issued their notes to the public, and amounts, in effect, to a legalized violation of the law of contract. It also eliminates the note reflux process by which over-issues of notes were previously checked. The law suspending convertibility therefore needs to be supplemented by other measures to ensure that note issues are checked.[14] In addition, once the suspension has occurred and the crisis has abated, the banks have no incentive to restore convertibility, at least in the short to medium run. By contrast, banks suspending under the option clause would restore convertibility as soon as interest rates fell below their "threshold" (or intervention) levels; that is, virtually immediately. The pressure for resumption must come instead from the political process, and it often takes a very long time to come, assuming it

[14]An interesting example of this problem arose in the United States during and after the Civil War. There were multiple note-issuing banks, but no convertibility. What seems to have prevented a "monetary explosion" were the bond-deposit requirements and other restrictions placed on the note issue.

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ever does. When the Bank of England suspended specie payments in 1797, for example, it was 22 years before an act was passed to order it to resume specie payments.[15]

There are additional problems if the public anticipate the suspension. In that case, the public have an incentive to redeem their notes before the government intervenes to suppress convertibility. The anticipation of the suspension then creates (or intensifies) a bank panic that can force the government's intervention. The intervention then *appears* to be necessary to meet the panic—and might well be necessary, once the panic has got going—but the panic is itself caused by the *anticipation* of that intervention. In other words, establishing a machinery to intervene can create the very crises that the intervention is intended to deal with. And as a practical matter, it is impossible to design a procedure to implement suspensions that the public will not anticipate. Indeed, the very circumstances in which the authorities would be likely to intervene will be known to the public, who would then be able to anticipate and force their intervention. There will always be the problem of preemptive demands for redemption and their potential to force interventions that might otherwise have been avoided.

The Historical Experience of Option Clauses

The most significant historical experience of option clauses was in Scotland from 1730 to 1765. The option clause was introduced by the Bank of Scotland in 1730, in order to protect itself against the attempts of its newly established rival, the Royal Bank of Scotland, to put it out of business by collecting its notes and presenting them for redemption. The option clause gave the Bank of Scotland the right to defer redemption for six months provided it paid compensation at the annual rate of sixpence on the pound, or 5 percent, which was the limit placed on interest rates by the usury laws. Its customers accepted the option clause notes, and they circulated at par. This was despite the fact that the Royal Bank refused to adopt the option clause, and advertised that its notes were fully convertible on

[15]The proximate cause of the bank's suspension was an invasion scare triggered by the landing of a small French force in Wales (which promptly surrendered). After that, the threat of invasion was never so severe, and peace was finally established in 1815. The Restriction nonetheless continued until 1821. To give a second example, the United States suspended convertibility shortly after the Civil War broke out in 1861. The war ended in 1865 but convertibility was not restored until 1879. A final example is the current system of inconvertible fiat monies—there has been no formal link with gold since the early 1970s, and there appears to be relatively little political pressure to restore a commodity standard.

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demand. In the 30-odd years afterward, various new banks were established in Scotland, and they also adopted the option clause. The early 1760s were characterized by a serious shortage of specie in Scotland, as high interest rates in London attracted Scottish gold south, and by mid-1762 all the note-issuing banks in Scotland had adopted the option clause.

For reasons that are not entirely clear, there was considerable controversy in the early 1760s over the clause and the issue of small notes. Adam Smith's strictures about the option clause presumably reflect something of contemporary opinion, but Meulen (1934, pp. 130–31) reports several Scottish newspaper opinions of the time that were sympathetic to it. Much of the controversy also appears to be linked to the attempts of the Royal Bank and the Bank of Scotland to get a bill through Parliament to eliminate their opposition. As part of the price for such an act, they were willing to give up the convenience of the option clause. At least one of the provincial banks, in turn, was willing to give up the option clause as part of a deal to secure the full legal recognition they still lacked.[16] The provincial banks appear to have had the stronger parliamentary support, because the act that was passed gave them that recognition and guaranteed free entry to the Scottish banking industry, though the price of that freedom was the prohibition of the option clause and of notes under £1.[17]

Option clauses were also used in England, but they developed a bad reputation there because of the different circumstances in which they were used. An act of 1708 had sought to strengthen the Bank of England's privileges by limiting other banks to partnerships of up to six partners. The capital of other English banks was therefore limited to that which up to six partners could provide, and in an industry characterized by extensive economies of scale this meant that they were severely undercapitalized. Being small and vulnerable, the English banks failed en masse whenever financial conditions became unstable. The option clause was sometimes used in these circumstances to "bolster up an unstable bank, instead of merely to protect it, and there were frequent instances of notes circulating at a discount for months on account of diminution of public confidence in the bank of issue and inability to apply for immediate redemption of the paper

[16]For more on the background to the 1765 act, see Munn (1981, pp. 18–21), and Checkland (1975).

[17]The provincial banks appear also to have got an edge on the small notes issue. The two big Edinburgh banks wanted a £10 lower limit to drive out the other note issues, but the provincial banks' supporters were able to push through a lower limit of only £1 (see Munn 1981, pp. 19–21).

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in coin" (Meulen 1934, p. 129). In the *Wealth of Nations* ([1776] 1911, p. 291), Adam Smith reported that

> in the paper currencies of Yorkshire, the payment of so small a sum as a sixpence sometimes depended on the condition that the holder of the note should bring the change of a guinea to the person who issued it; a condition which the holders of such notes might frequently find it very difficult to fulfill, and which must have degraded this currency below the value of gold and silver money.

Unfortunately, little else is known about their use in England.[18]

Option clauses were also allowed for a brief period in Sweden. Jonung (1985, p. 12) reports that the Swedish banking law of 1864 allowed banks to defer redemption of their notes provided that they paid compensation at the rate of 6 percent a year, but he does not report on the effects of this provision, or whether any banks actually used it.

Finally, there is some limited evidence of option clauses in Canada.[19] Schuler (1985, pp. 72–73) reports that the charter of the Bank of Nova Scotia (1832) allowed it to suspend specie payments provided that it paid compensation at an annual rate of 12 percent. He also reports that it was the only bank in British North America to have an option clause written into its charter. Generally, however, Canadian banks were allowed to suspend convertibility for up to 60 days consecutively, or within any given year. They did not usually have to pay any interest, but if they suspended for longer periods they were liable to lose their charters.[20] Perhaps because Canadian law already gave the banks legal means of suspension, Canadian bankers had little interest in an explicit option clause.

During the panic of 1837, all the Canadian banks suspended except those in Upper Canada (Ontario), whose governor refused to allow them to suspend. Interestingly, the Bank of Nova Scotia did not pay any penalty for suspension, perhaps because none of the other banks did.[21] The recession was far less severe in those parts of Canada that

[18]None of the standard histories of English banking deals with the issue.

[19]The discussion of Canadian experience is based on Schuler's work on the subject. This is to be consolidated into his forthcoming Ph.D. dissertation at George Mason University.

[20]An interesting question is why the banks did not suspend more frequently than they did. The answer, presumably, is that they needed to keep customer goodwill which would have been endangered by excessive suspensions. Excessive suspensions might also have led to legislated restrictions on their rights to suspend.

[21]Details of this experience are scarce (see Schuler 1988, pp. 89–90). Schuler notes, however, that at this stage most Canadian banks did not yet have suspension provisions. These came in 1841.

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suspended. As Schuler (1988, pp. 91–92) notes, since the position of the Upper Canadian banks was

> not any stronger than that of their counterparts in Lower Canada or the United States, their experience argues that had maintenance of payments been the sole object elsewhere it could have been achieved. On the other hand, Upper Canada paid a terrible price; the effects of the panic are said to have been worse than anywhere on the continent. Its banks found that a total contraction in new loans of almost one-half was necessary to protect reserves. In contrast, the banks of Lower Canada contracted new loans by about one-quarter from their 1837 peak to their February 1838 low. Consequently, Upper Canada was beset by a wave of business failures, while Lower Canada had so few that the Bank of Montreal's minute book for the period makes practically no mention of troubled borrowers.

This experience seems to confirm our earlier discussion that the availability of a legal means of suspension can substantially alleviate the severity of a "gold panic."

Conclusion

Option clauses provide a way in which banks can legally protect themselves against the danger of default to which full convertibility on demand exposes them. They avoid the disadvantages of trying to maintain convertibility at any cost, on the one hand, and relying on the government to bail out the banking system, on the other. Though the historical experience of option clauses is limited, it appears to be consistent with our prior expectations. The option clause therefore appears to be worth exploring further as one means by which a laissez-faire banking system can protect itself against banking instability—provided it is allowed to do so.

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Antitrust and Regulation: Chicago's Contradictory Views

Fred S. McChesney

> If you propose an antitrust law, the only people who should be opposed to it are those who hope to become monopolists, and that's a very small set of any society. So it's a sort of public-interest law in the same sense in which I think having private property, enforcement of contracts, and suppression of crime are public-interest phenomena.
>
> —George Stigler[1]

Introduction

For decades, theorists known collectively as the "Chicago school" have defined the intellectual agenda of antitrust. Inspired by the ideas of Aaron Director, the Chicago school approach has been advanced by scholars like Robert Bork, Yale Brozen, Harold Demsetz, Frank Easterbrook, Richard Posner (often joined by William Landes), and George Stigler. So powerful has been their collective influence on antitrust thinking that the phrase "the Chicago revolution in antitrust" has become a platitude in the antitrust literature.

Will this intellectual dominance—salutary in so many ways—continue? In seeking to answer that question, this article presents and develops two points about the Chicago school. First, although correct on many issues, Chicago has mistakenly concluded that it has won the antitrust war, and so has withdrawn its forces from the fray. Yet the withdrawal is premature: unopposed hostile forces remain on the battlefield.

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The author is Robert T. Thompson Professor of Law and Business, and Professor of Economics, at Emory University. He gratefully acknowledges comments on an earlier draft from George Bittlingmayer, Richard Higgins, and Paul Rubin.

[1]"*Reason* Interview: George Stigler" (1984, p. 46).

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Chicago's views of antitrust face a second, and fundamentally more difficult, challenge. Much of the normative economic analysis on which Chicagoans relied in proclaiming victory is manifestly inconsistent with more fundamental positive notions of economics developed by Chicagoans themselves. In particular, Chicago's positive approach to antitrust, viewing it as public-interest government intervention intended to correct market failure, squarely contradicts the now-dominant economic theory of regulation that Chicago itself popularized. The Chicago school of antitrust regulation, that is, runs counter to the Chicago school of regulation more generally.

An underlying theme of this article is that the two basic phenomena under discussion have produced a more complicated intellectual agenda for antitrust in the 1990s. From 1960 until recently, the intellectual battle in antitrust was easy to characterize: it pitted Chicago revisionism against a coalition of anti-Chicagoans (often identified with Harvard) defending more traditional antitrust policies. But the future debate will be multifaceted. On one side, traditionalists will continue to challenge Chicago conclusions that certain practices (such as predatory pricing and vertical arrangements) are not worrisome. On the other side, public choice theorists working within the economic theory of regulation will increasingly challenge Chicago's public-interest view of antitrust. Outside Chicago, antitrust is increasingly seen as another form of regulation. If so, the debate must include recognition of the politics of antitrust—a subject Chicagoans have persistently downplayed or ignored.[2]

Declaring Victory and Going Home: The Withdrawal of the Chicago School

After a century of experience with antitrust, almost no one would disagree that it has developed in thoroughly undesirable ways. Two defects stand out.

First, much of antitrust jurisprudence is economic nonsense. Everyone has a favorite example. Some like the case where per se liability was imposed on a group of competitors for acts that resulted

[2]To avoid misunderstanding, it should be noted that those adopting a public choice approach generally agree with the Chicago welfare-economic analysis of particular business practices. Chicago's contributions in this area have been enormous. The disagreement arises as to the political economy of the antitrust statutes. In that respect, the Chicago approach has been less helpful, as explained herein. Of course, all Chicagoans may not subscribe to all facets of what is described here as the Chicago school of antitrust and of regulatory analysis. I believe, however, that the views presented here are typical of the authors discussed and of the Chicago perspective generally.

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in "stabilizing prices downward";[3] others prefer the case where per se liability was imposed for maximum-price agreements because (according to the Court) such contracts are no different economically from minimum-price fixing.[4] After reviewing a number of Supreme Court opinions, one former head of the Antitrust Division (Kauper 1986) chose as his favorite aberration the *Von's Grocery* decision.[5] There, the government successfully blocked a merger between two grocery firms having a combined market share of 7.5 percent, in a market with 3,818 single-store and 150 chain-store competitors.[6] The rationale against the merger was stopping incipient concentration in the grocery market. As Kauper writes (pp. 2–3):

> Never has analysis been crisper, logic more refined. Confronted with a practical problem—the departure of mom and pop's from the Los Angeles grocery market—the Court quickly perceived that the solution was simply to close the exit. The reaction was similar to that of Attorney General Kleindienst when, on receipt of a bomb threat, he ordered all the Justice Department doors closed and everybody kept *in*.

The second, related, defect is that the courts' blessing of economic nonsense has given private plaintiffs much ammunition for meritless (but trebly lucrative) antitrust actions. Antitrust has thereby become a weapon wielded against competition, not for it. The facts and figures on the private antitrust explosion have been presented elsewhere (e.g., Hazlett 1986). The phenomenon has caused previous partisans of antitrust (e.g., Baumol and Ordover 1985) to question its overall role in a competitive order. Many big-name "liberals" like John Kenneth Galbraith, Robert Reich, and Lester Thurow have written that it may have no role.[7]

Into this system of jumbled jurisprudence and meritless private actions, beginning in the 1950s, stepped the Chicagoans. Their contributions have been numerous, valuable, and well discussed elsewhere. The subject of interest here is the Chicago perception of the purposes of the antitrust laws. The Sherman Act, they maintain, was intended to maximize consumer welfare (e.g., Bork 1966; 1978, pp. 56–66). The principal problems with antitrust, they believe, are due to courts' misunderstanding of how the competitive process

[3]U.S. v. Container Corp., 393 U.S. 333 (1969).

[4]Albrecht v. Herald Co., 390 U.S. 145 (1968).

[5]U.S. v. Von's Grocery Co., 384 U.S. 270 (1966).

[6]"In fairness, there was a concentration trend in *Von's*—the top four went from 24.4% to 28.8%. Try that in a Herfindahl!" (Kauper 1986, p. 3).

[7]This point is discussed by McChesney (1986, pp. 381–82) and by Hazlett (1986, pp. 278–79).

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actually works in maximizing consumer welfare (Bork 1978; Demsetz 1982, 1989; Posner 1976). If courts departed from the rigid "perfect competition" model and recognized real-world problems like information and transaction costs, courts then would recognize that consumer welfare is increased by practices previously deemed undesirable under antitrust law (for example, vertical arrangements). And in fact, courts have moved closer and closer to Chicago positions on these issues.[8]

But the Chicago victories, evident on several fronts, have by no means been complete. Three pockets of resistance remain. First, Chicago's intellectual sorties have not been able to stem the tide of meritless private actions. Until relatively recently (Easterbrook 1984), private actions typically did not require separate analysis in Chicago. Judges who understood the consumer-welfare origins of the antitrust statutes and the true nature of competition would have all they needed to separate good from bad actions, private or public. It is apparent, however, that this just has not happened; Chicagoan suggestions for improvement in this domain (e.g., Easterbrook 1984) have been ignored.

Moreover, while commentators may agree that the reasoning of the old cases is frequently wrong, the courts have not been so quick to agree. Per se rules against agreements that limit, rather than raise, prices are still per se illegal.[9] So is the per se rule against resale price maintenance, against which Chicagoans have inveighed for a generation. Courts continue to impose liability for tying (Sims and Lande 1986, pp. 307–8), despite Chicago's repeated demonstrations that tying is economically benign, even beneficial. Other Supreme Court decisions consistent with the Chicago approach have relied on reasoning so fragile that their durability is questioned, even in Chicago (Wood Hutchinson 1984).

Finally, antitrust partisans (e.g., Hovenkamp 1985) have been indefatiguable in thinking up new, more sophisticated theories for antitrust liability. The current rage seems to be "raising rivals' costs," an old notion newly repackaged that is getting close attention from commentators (e.g., Krattenmaker and Salop 1986) and, perhaps, from

[8]Chicagoans have proclaimed intellectual victory on the basis of courts' change of position. The reasoning has struck some as *post hoc ergo propter hoc*. Some (Kaplow 1987) believe that the change in antitrust attitudes has been driven by politics, not economics, and thus would have happened with or without Chicago. That debate is not discussed directly here, although portions of the analysis in the third section of the paper may bear on it. See also Page (1989).

[9]Arizona v. Maricopa County Medical Society, 457 U.S. 332 (1982). For a discussion of this decision within the Chicago school paradigm, see Gerhart (1982).

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the courts.[10] In addition, sophisticated models of strategic predatory pricing have replaced the older ones refuted by Chicago some time ago.

A historical perspective is helpful. The antitrust wheel of fortune has spun many times since 1890. As the wheel turns, periods of relaxed enforcement give way to renewed enforcement vigor, relying in part on new antitrust theories (Baker 1985, Sims and Lande 1986). This constant change in antitrust thinking is reflected in the waxing and waning of courts' respect for key antitrust precedents (Steuer 1985).

In other words, no one outside Hyde Park believes that with the Chicago victories of recent years the war has reached the end, or even the beginning of the end. With the war still raging, however, Chicago has declared victory and gone home. The newer theories of liability remain largely unaddressed. Large numbers (arguably a majority) of commentators and courts remain to be persuaded by the Chicago approach. Yet Landes (1985, p. 652) declares that the economics of antitrust have been "uncontroversial for many years." With his declaration that we are all Chicagoans now ("it is no longer worth talking about different schools of academic antitrust analysis"), Posner (1979, p. 925) has largely abandoned the field for remoter terrain like law and literature, theories of justice, and law and feminism.[11] But even at the time, Nelson (1979, p. 949) commented that the economics Chicago thought it had vanquished had already been supplanted by a "newer" price theory that "is more consistent with old Harvard than the new Chicago." Nelson's point is even truer today.

The belief that by the late 1970s it was time to declare victory is evident from the Chicago antitrust writings appearing subsequently. These fall into two camps. The first reemphasizes the correctness of the Chicago approach to antitrust as a set of consumer-welfare statutes, and expresses beliefs and hopes that in the many areas where courts have not come around to appreciating Chicago's wisdom they will do so soon. Its most prominent practitioner has been Robert

[10]While the Supreme Court has yet to consider a case with allegations of "raising rivals' costs," prior decisions have imposed liability on antitrust defendants for actions that in effect amounted to the same thing. See, for example, Aspen Skiing Co. v. Aspen Highlands Skiing Corp., 472 U.S. 585 (1985). As to whether the theory is actually different from more traditional notions of monopolization, see Brennan (1988). As to whether the practices even constitute monopoly, see Liebeler (1987) and Wiley (1986).

[11]Posner (1979, pp. 939–40) recognizes that the Chicago view of some practices does not dispose of opponents' claims that certain practices involving strategic behavior are anticompetitive. But as noted, there has been little attempt either to integrate those claims into the Chicago approach or, alternatively, to refute them.

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Bork (1978), but he has had help. Brozen (1986 pp. 355–56), while admitting that "the antitrust laws have been used to frustrate efficiency and competition," cautions against despair; a "few halting steps" of improvement have been made, he says, and "one can only hope that there will be more to come." The same message can be said to describe Demsetz' work (1982, 1989): antitrust has proceeded from a flawed definition of competition, but if redirected to attack real (government-created) monopolies would be a useful policy.

A second camp has moved on to other areas altogether. With the important issues of substantive liability (as they perceive them) already disposed of, this second group of Chicagoans has been increasingly interested in using economics to "fine tune" antitrust procedures and damage calculations. For example, articles have appeared on optimal sanctions for antitrust violations (Landes 1985), contribution among antitrust violators (Easterbrook, Landes and Posner 1980), standing under the antitrust laws (Landes and Posner 1979), and economic definitions of market power (Landes and Posner 1981). In these sorts of articles, Chicagoans have joined other fine-tuners (e.g., Blair 1985) who maintain in effect that the antitrust laws are fundamentally useful but could be enforced more efficiently.

Thus, the Chicagoan attitude toward antitrust today appears to be guarded optimism, based on a blend of complementary beliefs that the basic issues of antitrust liability have been resolved, that courts are slowly but surely getting it right, and that in the meantime non-liability issues can usefully be refined by welfare economics. Nowhere is Chicago's basically positive attitude toward the supposed goal and the future (if not past) performance of antitrust better manifested than in Stigler's statement, "I like the Sherman Act."[12]

A House Divided against Itself: Chicago Views of Antitrust and Regulation

Antitrust is economic regulation. Its essence is the regulation of certain kinds of economic relationships: horizontal agreements to fix prices, agreements between competitors to combine (by merger or otherwise), and so forth.[13] Antitrust thus regulates the same things that other forms of regulation have traditionally covered. Congress established the Interstate Commerce Commission and the Civil Aeronautics Board specifically to regulate competitors' prices; the

[12]"*Reason* Interview" (1984, p. 46).

[13]Obviously, the antitrust laws cover much more than just those sorts of agreements. I mention those specifically, however, as they are generally thought to be the most problematic for competition. See Demsetz (1982, pp. 50–53).

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Securities and Exchange Commission regulates various aspects of corporate combinations. Even the procedural aspects of antitrust and those of related forms of regulation are similar. The Hart-Scott-Rodino Act requires a waiting period to get antitrust clearance for proposed mergers from either the Antitrust Division or the Federal Trade Commission; the Williams Act, administered by the SEC, requires a waiting period before similar corporate transactions can be completed.

Given that antitrust is a form of regulation, one would think that Chicagoans would analyze it using the "economic theory of regulation." That theory was given its earliest formal statement in Stigler (1971) and further developed by other Chicagoans (Peltzman 1976, Becker 1983). Under the economic model, regulation is explained by the benefits it provides to well-organized interest groups and the politicians who represent them, rather than in terms of government officials acting altruistically to benefit the populace at large by solving market failure.

Development of the economic theory of regulation has included significant contributions by Posner (1975), quantifying the extent of the welfare losses due to politically driven regulation; and by Landes and Posner (1975), explaining the role of a constitutionally guaranteed independent judiciary in the economic theory of regulation. Posner's thesis that the common law is generally efficient while statutory law is not (1986, pp. 340, 491–507) is an offshoot of the economic theory of regulation. Intellectual recognition of the economic approach to regulation has entailed development of other ancillary theorems, as explained below.

The economic theory of regulation has resulted in an intellectual revolution among economists and lawyers. As a recent report on Chicago political economy (Tollison 1989, p. 295) stated, "the primary alternative to Stigler's theory of economic regulation was the Pigovian or public-interest theory of government, which was already under heavy assault from earlier contributions to public choice theory by Buchanan, Tullock, and others. Today, virtually no one thinks in such terms. The [Chicagoan] interest-group theory of government has accumulated widespread recognition."

That antitrust is in fact regulatory is of course recognized in Chicago. Posner (1970, p. 389) lists 109 "regulatory decreases" in DOJ antitrust cases up until 1969, almost all of them handed down since 1945.[14] Regulatory decrees are ones that establish ongoing

[14]See also Easterbrook (1984, p. 35, n. 72), who observes that "many antitrust suits are regulatory. . . . Approximately 53 antitrust decrees entered through 1979 are regulatory in character. This substantially exceeds the number of industries regulated by statute." See also Sullivan (1986).

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governmental supervision of defendants. These decrees are "disturbing," because they are anticompetitive, "tantamount to a confession that antitrust action has not succeeded in restoring competitive conditions." Moreover, Posner says, "in view of persistent and serious questions that have been raised concerning the wisdom and efficacy of formal systems of regulation in the transportation, public utility, and other industries, the creation of new schemes of regulation on an ad hoc basis is a questionable expedient."

It is interesting in itself that Posner does not refer to all of antitrust as a form of regulation, since it clearly is. Nevertheless, his admission that "regulatory" decrees have made up "a significant fraction" of all civil antitrust decrees would suggest that Posner would begin to analyze antitrust using the economic theory of regulation. Yet his major work (1976) on antitrust contains no such analysis; nor is it developed anywhere else in his writings.[15] Instead, Posner joins Bork in claiming that the Sherman Act is a government attempt to improve efficiency. "Since efficiency is an important, although not the only, social value, this conclusion establishes a prima facie case for having an antitrust policy" (Posner 1976, p. 4). Easterbrook (1984, p. 1) says simply, "The goal of antitrust is to perfect the operation of competitive markets."[16]

Nowhere is the Chicago distinction between antitrust and regulation more evident than in Bork's discussion of "predation through governmental processes" (1978, pp. 347–64). Recognizing that other forms of regulation are used routinely to restrict rather than enhance competition, Bork (p. 364) touts antitrust as a way to attack such behavior: "Predation through the misuse of governmental processes appears to be a common but little-noticed phenomenon. . . . In this area, antitrust cannot only perform a valuable service to consumers but, as a by-product, can also contribute to the integrity and efficiency of administrative processes." Demsetz (1989, p. 27) likewise expresses hope that "our antitrust laws can be marshaled to attack

[15]In the successive editions of *Economic Analysis of Law*, for example, Posner has never included antitrust in his discussion of regulation. See, for example, Posner's summary of antitrust (1986, pp. 265–97). It is interesting also that in discussing Aaron Director's influence on the development of Chicago antitrust, Posner (1979, p. 928) states that Director's work was not motivated by "antipathy to government in the economy," but simply by a desire to correct erroneous welfare-economics views concerning firms' behavior.

[16]Easterbrook's stance on antitrust is all the more curious, given his oft-stated belief that in takeovers target-firm management should be legally prohibited from resisting a hostile bidder. See, for example, Easterbrook and Fischel (1981). One of the ways that management has found useful for repelling unwanted bidders has in fact been the filing of an antitrust action. See Jarrell (1985).

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government sponsored protectionism."[17] Antitrust is not to be analyzed as harmful economic regulation; indeed, it should be viewed as the antidote for such regulation.

It should be noted also that Posner's belief that the Sherman Act was basically intended to increase consumer welfare is apparently inconsistent with his view that typically the common law is efficient while statutory law is not. There was, of course, a common law of trade restraints, which the Sherman Act supplanted. Chicagoans have resolved the inconsistency by claiming that the Sherman Act merely codified the common law (Bork, 1978, p. 20), even though the Supreme Court's earliest antitrust decision specifically held that "the common law cases on restraint of trade would not be precedents in Sherman Act cases" (Grady 1990, p. 6). Likewise, Demsetz says, subsequent antitrust enforcement just reflects what would have happened under the common law.[18]

Such a public-interest (Pigovian) presumption in favor of antitrust regulation is the exact opposite of the economic theory of regulation. In effect, the Chicago view of the Sherman Act maintains that antitrust is the exception to the regulatory rule—it is part of the solution, not the problem. Given the unique position that antitrust occupies in Chicago, it is useful to explore the reasons advanced for its favored status.

Legislative History

Bork (1978, p. 63) claims that the legislative history of the Sherman Act supports a public-interest interpretation, displaying "the clear and exclusive policy intention of promoting consumer welfare." Such a justification has three problems, each seemingly fatal in itself.[19]

[17]A related public-interest argument made for antitrust is that, properly implemented at the federal level, it can be used to override state-sponsored anticompetitive arrangements. See Wiley (1986); for objections, see Spitzer (1987) and Page (1987); for a reply to the objections, see Wiley (1988).

[18]According to Demsetz (1989, p. 26), "If the Sherman Act had not been adopted, common law procedures would have guided our policy toward competition. Would this have yielded a very different policy? Because the standard of reasonableness has played such a large role in court proceedings over the first century of the Sherman Act, the modus operandi of our antitrust policy has not differed as much as might be supposed from that which would have been used by the common law." Demsetz notes two differences between the statutory antitrust and the common law, public enforcement and the illegality of certain mergers, but believes neither of these changes has been very significant.

[19]A point not considered here is the objection that it is economically meaningless to ascribe "intent" to a legislative body monolithically. Its members may vote the same way, but ordinarily do so for very different reasons. For a response to this objection, see Bork (1978, pp. 56–57).

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First, almost all other inquiries into the passage of the antitrust statutes have disagreed with Bork's reading of the legislative history (e.g., Lande 1982; Hazlett, forthcoming). The supposed monopoly and cartel problems that "necessitated" the Sherman Act were apparently nonexistent (DiLorenzo 1985). There is considerable evidence that interest-group pressures explain much of the Sherman Act (Benson et al. 1987; Hazlett, forthcoming; Libecap 1990). In its first Sherman Act opinion, the Supreme Court found that "it would be impossible to say what were the views" of the politicians voting as to the meaning of the act. As one commentator put it recently, Bork's interpretation of the legislative intent underlying the Sherman Act "is unique to Judge Bork" (Flynn 1988, p. 264).[20]

Second, the public-interest approach is internally inconsistent. It treats private individuals as maximizing their own welfare in attempting to cartelize or monopolize, but it treats government legislators and bureaucrats as disinterested public servants. As Shughart and Tollison (1985, p. 39) note, "In one setting individuals are assumed to be selfish; in another they are selfless. The analyst cannot have it both ways. A decision about how individuals behave in general must be made." A consistent approach to antitrust must begin by asking what politicians and bureaucrats maximize and how antitrust furthers their goals. (This point is discussed further below.)

Perhaps most important, Bork's reliance on legislative history runs afoul of a major corollary of the economic theory of regulation. If legislation is presumptively driven by interest-group politics, it is costly for politicians to tell voters, consumers, and other victims of regulation the true motivation behind regulation. Political motivation cannot be inferred from statutory preambles, committee reports, or "speeches" never made but printed in the *Congressional Record.* Motivation is only to be inferred from the way regulation works, not what politicians say about it. As Stigler (1975a, p. 140) put it, "The announced goals of a policy are sometimes unrelated or perversely related to its actual effects, and the *truly intended effects should be deduced from the actual effects.*" In the case of antitrust specifically, the fundamental statutes (the Sherman Act, the Clayton Act, the Federal Trade Commission Act) have been in existence for 100 years, with almost no important changes. Since Congress can always change the law if it wants, it must "intend" (accepting *arguendo* Bork's

[20]According to Flynn (1988, p. 267), "Everyone who has made a considered study of the legislative history of the major antitrust laws flatly rejects Judge Bork's assertion that 'consumer welfare' was the only goal Congress had in mind."

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notion of institutional intent) the results that antitrust has produced for a century: bad jurisprudence and anticompetitive suits.

Lack of Economic Guidance

Chicagoans have also justified their public-interest view of antitrust by mistake theories. Allegedly, politicians and judges have wanted to do the right thing economically, but economists have failed to provide the requisite guidance (e.g., Demsetz 1982, 1989). If economists were better able to define what competition truly was, and had done so, then politicians would have responded with an antitrust law that mirrored economics. According to Bork (1978, pp. 63–64): "It is not at all clear that the congressmen who voted for the [Robinson-Patman Act] knew that they were sacrificing consumers for the benefit of small merchants. Indeed, there is evidence ... that many congressmen thought the law would serve consumers.... Today we know better." Similarly, Demsetz (1989, p. 20) ascribes the "instability of antitrust enforcement" to a "lack of clarity as to what a crime is and as to what constitutes evidence of its perpetration." The fact that economists failed to enlighten legislators, bureaucrats, and judges (and so left the way open for the bad antitrust observed today) hardly means that antitrust was not a public-interest regulatory scheme when it was inaugurated in 1890, Chicago maintains. With greater economic understanding will come better jurisprudence, better enforcement, and fewer meritless suits. Once provided adequate economic guidance, the Chicago argument concludes, the law will conform to economics.[21]

These claims cannot be squared with the economic theory of regulation. Politicians, bureaucrats, and judges have no incentive to adopt efficient laws, and thus should not be presumed to do so. Unless it can be shown how government officials gain by seeking and using better economic information, one should not presume that they will do so. Chicago has not shown how any such incentives operate in the world of antitrust.

Moreover, the contention that the law has tried, but failed, runs afoul of another important corollary of Chicagoans' economic theory of regulation. Confronted with evidence (such as bad law and meritless suits) that regulation has not worked, public-interest partisans frequently fall back on "mistake" theories to explain why the public interest has not been served. Mistake theories fail on two counts.

[21]The view that antitrust is fundamentally benevolent but flawed by economists' inability to provide the requisite guidance is well established outside Chicago. See, for example, Asch (1970, pp. 401–2).

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They cannot explain why Congress has failed to correct a century of errors, as noted above. More important, a mistake theory is an intellectual *deus ex machina;* it is offered, not to explain, but to obscure an inability to explain. As Stigler (1982, p. 10) says, a mistake theory for real-world regulation that deviates from promised public-interest objectives is "profoundly anti-intellectual."[22] Elsewhere (1975a, p. 140) he writes:

> Policies may of course be adopted in error, and error is an inherent trait of the behavior of men. But errors are not what men live by or on. If an economic policy has been adopted by many communities, or if it is persistently pursued by a society over a long span of time, it is fruitful to assume that the real effects were known and desired. Indeed, an explanation of a policy in terms of error or confusion is no explanation at all—anything and everything is compatible with that "explanation."

Chicago's dismissal of antitrust's dismal century as prolonged—but ameliorable—error is thus unconvincing and unacceptable.

Lack of Evidence on Effects of Antitrust

A third reason frequently offered why antitrust should be viewed as beneficial is the lack of evidence to the contrary. While many evils have admittedly arisen from antitrust, they must be offset against the good: whatever mischief antitrust has caused must be balanced against the economically undesirable things it has deterred. In the end, this third claim goes, we simply do not know whether antitrust has caused more harm than good, or vice versa. Stigler's (1966) initial study of the effects of antitrust set the tone, presenting bits of evidence very diffidently and concluding that the results were "meager" and so not much could be said one way or the other about antitrust's effects. Until more conclusive evidence is available, it is said, antitrust cannot be proven to operate like other forms of regulation.

This approach is remarkable for three reasons. First, the presumption that antitrust is a good thing runs directly contrary to the typical Chicago approach that long-term problems of cartels and monopoly are unlikely theoretically and minimal empirically (Harberger 1954). As Reder (1982, p. 17) notes, "Chicago concedes that monopoly is possible but contends that its presence is much more often alleged

[22]In Stigler's view (1982, p. 10):

> Whether one accepts or rejects the high hopes that some of us now entertain for the economic theory of politics, the assumption that public policy has often been inefficient because it was based upon mistaken views has little to commend it. . . . [A] theory that says that a large set of persistent policies are mistaken is profoundly anti-intellectual unless it is joined to a theory of mistakes.

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than confirmed, and receives reports of its appearance with considerable scepticism. . . . Normatively, Chicago economics says monopoly is bad; positively, it says it is of infrequent occurrence and limited impact." If so, antitrust can have few benefits. Yet Stigler (1968, p. 297) states confidently that "the history of the American economy in the twentieth century testifies that a modest program of combating monopoly is enough to prevent any considerable decline in competition." This "fundamental empirical truth" is propounded without a shred of substantiation.

Second, the Chicago approach to empirical evidence presumes that antitrust regulation is benign and puts the burden on others to show that antitrust is economically malignant. Antitrust is innocent until proven guilty. If no one comes forward with sufficient evidence, antitrust goes free. That approach is contrary to the presumption ordinarily applied to regulation under the economic model. Consider Reder's (1982, p. 31) summary of the Chicago position:

> The state is considered an agent, and one that is exceedingly difficult to monitor or to control. Therefore the state is to be shunned as an inefficient instrument for achieving any given objective—it is better sought privately—and objectives that cannot be achieved except through the state are to be scrutinized carefully and sceptically. Either the political process will frustrate the achievement of the goals altogether, or will drastically alter them in the process of achievement and, in any case, waste resources.
>
> The argument of the prceding paragraph is sufficient basis for a generally adverse view of government intervention. Any reformer must either refute it, or minimize its importance.

Obviously, this characterization of the Chicago approach to regulation generally does not apply to antitrust specifically.

The final curiosity in the Chicago position toward empirics is the fact that there is ample statistical evidence that antitrust has *not* had any appreciable benefits. Repeated empirical investigations of the criteria on which antitrust enforcement has depended find no evidence that consumer welfare drives enforcement. For example, Long et al. (1973, p. 361) find that welfare loss has "played a minor role in explaining antitrust activity." Siegfried concludes (1975, p. 573) that "economic variables have little influence on the Antitrust Division."

Empirical studies of certain kinds of enforcement likewise report unanimously an absence of welfare benefits. This is notably true in the two areas where Chicagoans maintain antitrust has its most beneficial role to play: price-fixing and horizontal mergers. The available evidence (Marvel et al. 1987, Asch and Seneca 1976) indicates that government antitrust actions target either firms that were not

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attempting to fix prices, or were doing so unsuccessfully. Likewise, actions to block horizontal mergers have concentrated on mergers that were not anti-competitive, or were even pro-competitive (Eckbo and Wier 1985). Moreover, studies of antitrust remedies (Hay and Kelley 1974, Elzinga 1969, Rogowsky 1987) note that they systematically fail to achieve their supposed welfare goals.

Admittedly, each of these pieces of empirical work only disproves the existence of certain kinds of benefits; the empirics cannot refute the claim—often offered—that antitrust's benefits lie elsewhere. So, for example, it is frequently claimed that even if enforcement is ineffective or targets firms that actually were not violating the law, the mere presence of antitrust scrutiny will force others in the industry to abandon any anticompetitive notions they might harbor.[23] If so, the benefits of antitrust would only be found by investigations of the entire industry, or even the national economy. Until very recently, such broader inquiries had not been undertaken.

Two recent papers, however, fill this gap. Miller et al. (1990) examine the effects of antitrust enforcement by the DOJ and FTC from 1955 to 1988. For each industry where enforcement actions were brought, the effects of enforcement were measured in terms of output, capital formation, and investment in research and development. Antitrust negatively affected each of them, ceteris paribus. An additional antitrust case reduced output by about 0.5 percent the next year, and the effect continued for a second year; it reduced capital spending by 1.45 percent, and research and development spending by 3 percent in the first year and by 0.78 percent in the next year.

Bittlingmayer (1990) presents complementary evidence from an earlier period, 1890–1914. Measured by different performance aggregates, the effects of antitrust enforcement during that time were consistently negative, holding other factors constant. Antitrust cases brought during the relevant period lowered real income, real output, stock prices, and other measures. The strongest negative impact was that produced by cartel cases, an area of enforcement that is thought particularly useful under the public-interest view of antitrust. As Bittlingmayer notes (p. 27), "the actual—as opposed to the black-

[23]As two non-Chicagoans (Asch and Seneca 1989, p. 261) have recently stated, "The problem is, of course, that neither the precedent nor deterrent effects of antitrust cases can be measured precisely. Among policymakers it is an article of faith that such effects are significant, and they well may be. It is quite possible that deterrence alone produces greater social benefits than any other antitrust result, but there is no reliable way to determine whether this is so. Lacking such knowledge, any assertion about the quantitative economic impact of policies contains an inevitable element of uncertainty." The papers by Bittlingmayer (1990) and Miller et al. (1990) discussed below go a long way toward removing that uncertainty.

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board—effects of antitrust" run demonstrably counter to the public-interest view of antitrust.

In short, the developing statistical evidence on the effects of antitrust is considerably stronger than before. Antitrust is clearly costly—in enforcement budgets, wrongly decided cases, and private strike suits. The earliest work tended simply to show that, in the areas investigated, antitrust had not delivered any benefits. But the many studies failing to find any antitrust benefits did not make an appreciable impact on Chicagoans, who have continued to talk—hypothetically—about antitrust's supposed ability to deter price fixing and anticompetitive mergers. That such benefits truly exist now seems very unlikely. The available evidence indicates that antitrust *reduces* output and wealth.

Antitrust's Inability to Benefit Particular Industries

A fourth reason offered by Chicagoans for their basically benevolent views of antitrust is their perception that antitrust cannot systematically benefit producers in any given industry. The focus on industry-wide producer benefits stems from the earliest (Stigler 1971) Chicago formulation of the economic theory of regulation, which models regulation as benefitting producers in a particular industry at the expense of consumers. As Stigler summarized his original model (1971, p. 3): "regulation is acquired by the industry and is designed and operated primarily for its benefit."

For Chicagoans, antitrust has never seemed to offer producers in most industries particular advantages, because its effects apparently are the same for all industries. Hence, it has not been seen as special-interest regulation: "The captive theory of regulation is not easily extended to antitrust since antitrust authorities do not supervise a single industry, firm or small group of these, as do most other regulatory agencies. These authorities, therefore, are not very susceptible to being manipulated by an identifiable constituency over which their power extends" (Demsetz 1989, p. 19). At times, Chicago school analysis has mentioned political influences on antitrust,[24] but Chicagoans' attempts to locate those influences empirically have failed.[25]

[24]Posner (1969, p. 54) refers briefly to the "politicization of antitrust policy" in the FTC as part of the agency's "dependence on Congress" (p. 82), but does not investigate further.

[25]Posner (1970, pp. 411–13) suggested that levels of antitrust activity might depend on which political party was in power, but found no evidence to support that hypothesis. See also Stigler (1985), who examines evidence that agrarian and small-business interests were responsible for the Sherman Act, but rejects that hypothesis empirically.

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Thus, given the burden of proof invoked in favor of antitrust, it continues to be characterized in public-interest terms.

There are several objections to the conclusion that a regulatory regime that cuts across industries is not likely subject to special-interest politics. First, politicians themselves clearly care for antitrust, as enforcement officials invariably learn (Baker 1985). Congressmen regularly exhort DOJ and FTC enforcers to bring ever more cases; the National Association of Attorneys General (NAAG) agitates for greater enforcement as well. Congress staunchly resisted Reagan-era initiatives to reduce enforcement, at both the FTC and DOJ. Jim Miller's attempts to close FTC regional offices and to reduce his budget were successfully rebuffed on the Hill. DOJ's attempts to change the per se rule against resale price maintenance were scuttled, its horizontal merger guidelines opposed, and its vertical guidelines condemned (both by Congress and by NAAG). The FTC's ill-fated *Exxon* case to break up the eight largest oil companies was instigated in response to blatant Congressional pressure.[26] As rational maximizers of their own welfare, politicians must find something valuable about antitrust, because they spend considerable resources to obtain more of it.[27]

Moreover, one observes that, outside antitrust, regulation cutting across industries is nonetheless driven by special-interest politics. FTC regulation of advertising has been shown to benefit some industry subgroups at others' expense (Higgins and McChesney 1986). There are well-organized pressure groups with demonstrated political power, such as unionized labor, whose affiliations span different industry groups. Finally, regulatory agencies whose responsibilities cover multiple industries have nevertheless been shown to respond systematically to political pressure. The Federal Trade Commission is an oft-studied example (Mackay et al. 1987, Weingast and Moran 1983).

Thus, the fact that antitrust is not industry-specific, and that it is administered by agencies with general jurisdiction that may not be captured by particular industries, is largely irrelevant. Neither aspect of antitrust necessarily alters the fundamental insights of the economic theory of regulation. It remains only to specify how antitrust

[26]Exxon Corp., 98 F.T.C. 453 (1981) (dismissing complaint). For a discussion, see McChesney (1986, pp. 372–73).

[27]Demsetz notes (1989, pp. 23–24) that politicians expend resources to influence patterns of enforcement. But he apparently does not view antitrust as just another form of regulatory redistribution, because he does not believe that antitrust enforcers can be "captured" and because he sees the real problem as a lack of understanding of what competition really is. Both these points are discussed above.

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can be used politically to benefit some groups at others' expense. Admittedly, the types of regulation imposed by antitrust are varied, meaning that each variant must be approached individually: the winners from blocked mergers and from prohibitions on resale price maintenance are most likely different groups. But this does not mean that one cannot identify the likely beneficiaries and victims, and test for antitrust's effects.

Horizontal mergers, to take one of the principal areas where Chicagoans would admit a role for antitrust, are an example. Mergers are a phenomenon that cuts across different industries; at first glance, therefore, regulation of mergers might not seem to have the potential for rewarding politically powerful groups at the expense of politically weak ones. But one must recognize antitrust's essential similarity to the regulation of securities markets.[28] It is now well understood that well-organized groups, such as workers, will often oppose mergers, takeovers, and other changes in corporate control. While not always organized before the fact, managements of particular firms have shown that they can effectively organize *ad hoc* for political purposes, such as lobbying for passage of state and federal statutes to block takeovers that threaten their jobs. Management and labor thus join often in pressing politically to stop takeovers.

Antitrust is a valuable political weapon in stopping mergers that are economically desirable but politically repugnant. Coate et al. (1990) show empirically that, other things equal, Congressional pressure does in fact affect FTC merger enforcement. Pressure is reflected particularly in the various antitrust oversight and budget hearings at which FTC commissioners and senior political appointees for antitrust are called to testify. As that pressure intensifies, the likelihood increases that the FTC will move to block more mergers.

The trans-industry political benefits of antitrust have been identified in other contexts. While a politician's constituents may want antitrust used to stop mergers, the same groups will oppose other sorts of antitrust enforcement. Government actions opposing practices like price discrimination and vertical restraints merely reduce firm wealth. But these enforcement actions are useful to politicians, because they control the agencies that file the cases. The filing of an enforcement action causes the demand to rise for the services of

[28]This similarity appears to have been recognized first by Henry Manne (1965). His seminal piece identifying "the market for corporate control," a fundamental notion in today's financial economics and securities regulation, explained why antitrust treatment of control transactions did not reflect the true economic reasons for changes in control.

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politicians, who can wield their control over the agency to pressure bureaucrats to drop the action. As Faith, Leavens, and Tollison (1982) note, therefore, antitrust enforcement would predictably be biased geographically to favor firms operating in the jurisdictions of politicians with budgetary or oversight responsibility for antitrust. Empirically, they find that FTC cases brought against firms located in important committee members' districts are more likely to be dismissed than matters involving firms located elsewhere. The increased demands for such constituent service make antitrust valuable to politicians.

In short, the empirical evidence indicates that politicians, particularly those on committees with oversight or budgetary power over antitrust enforcement, find antitrust useful. It allows politicians to block mergers adversely affecting key interest groups in legislators' home districts; particular enforcement actions also increase the demand for politicians' services to intervene with enforcement authorities. This private-interest approach to antitrust, based on the ways that antitrust benefits legislators personally, can explain antitrust far better than public-interest models can. The special-interest model has been validated empirically, while attempts to validate the public-interest approach (Long et al. 1973, Siegfried 1975, Asch 1975) have all failed. The special-interest approach is also more consistent with the dictates of treating all actors—private and governmental—as maximizers of their own welfare.

Conclusion

The persistence of the public-interest view of antitrust is not limited to Chicago.[29] But its persistence at Chicago is remarkable, given the special-interest approach taken toward regulation more generally. The two approaches are seemingly irreconcilable. The current intellectual situation thus is not a stable equilibrium. Either the Chicago view of antitrust or the Chicago approach to regulation is wrong; both cannot be right. Strictly as a matter of internal consistency, therefore, one view or the other must yield.

In view of the empirical evidence, as well as the larger body of theory and evidence validating the economic theory of regulation, one would like to think that it is the Chicago school of antitrust that will defer to the Chicago school of regulation. That is a normative

[29]In discussing what Eastern Europe will need as it shifts to a market economy, the *Wall Street Journal*, on December 1, 1989, included antitrust: "Monopolies, state or private, must be broken up to allow price competition to do its vital work" ("Death and Life in Germany" 1989, p. A14).

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proposition, however. As a positive matter, *will* Chicagoans begin to alter their antitrust views? Lacking a model of intellectual conversion, one cannot answer the question rigorously. But one suspects that a conversion will not come quickly, for several reasons.

First, the public choice approach may seem irrelevant to Chicagoans. Those who have declared victory and gone home may simply ignore the mounting challenges to Chicago orthodoxy. For others, there may be no perceived inconsistency. The more recent Chicago analysis using economics to discuss issues like antitrust standing and damages may seem unrelated to the public choice problems presented by the wider Chicago approach to regulation. True, current discussions of standing and damages presume that antitrust is welfare-maximizing. But even if antitrust is not in the public interest (as the evidence indicates it is not), that just means that standing and damages should be considered in a second-best model. Such models are notoriously inconclusive; while not demonstrably correct in a second-best world, the existing analyses of various procedural facets of antitrust are not demonstrably wrong.

Moreover, a paradigm switch would require going outside Hyde Park. From the frequent citations made here, readers will appreciate the number of those who have disagreed with the Chicago approach. Yet for the most part, Chicagoans have simply ignored the criticisms and carried on in their public-interest analysis. Demsetz (1989, p. 26), for example, notes that antitrust enforcers "are never fully insulated from politics," but states as well that this fact is "of small significance." None of the empirical work showing that politics *is* a significant factor is cited or discussed.

This characteristic has drawn comment. Nelson (1979, p. 950) suggests that Posner "has been talking mainly to his friends" in claiming that the Chicago approach is now accepted by all. Mitchell (1989, pp. 290–91) comments as well on Chicagoans' treatment of those working outside the Chicago paradigm as "irrelevant." So, for example, Stigler states (1982, p. 52) that "it would be embarrassing" today to encounter the argument among economists that predatory pricing is used to achieve monopoly. He can only be speaking of economists in Chicago; elsewhere (including in the courts), economists discuss it frequently with no apparent discomfort (e.g., Salop 1981).

In sum, there is little reason at this point to expect a conversion from public interest to public choice in the Chicago approach to antitrust.

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COMMUNICATIONS

FREE BANKING IN SCOTLAND: A DISSENTING VIEW

Larry J. Sechrest

Introduction

The increasing attention devoted to free banking in the last few years has certainly been both invigorating and long overdue. Much of the credit for this reanimated interest must in all fairness be given to Lawrence H. White for his research into Scottish banking of the period 1765 to 1845 (see, especially, White 1984). However, despite its stimulating content, White's work on Scottish "free banking" is not without some questionable elements. The present paper will review some of the reasons for such skepticism.

It should be understood, first of all, that this controversy is not merely some trivial dispute over an arcane bit of history. In many writers' minds the theoretical case for free banking has been intimately tied to the alleged success of Scottish banking. White himself contends that free banking in Scotland (1) "provides unique evidence on the workability of monetary freedom" and (2) can help answer "questions concerning the stability or efficiency of an unregulated monetary system" (White 1984, pp. 137, 141). Furthermore, White's interpretation of Scottish banking has gained a fairly wide circulation. Among those who have cited White favorably one finds Friedman and Schwartz (1986, pp. 49–51), Selgin (1988, pp. 7, 81, 140; 1989, p. 450), England (1988, pp. 795–96), Palasek (1989, p. 400), O'Driscoll and Rizzo (1985, pp. 10, 225), O'Driscoll (1986, pp. 601–2), Glasner (1989, p. 37), Dowd (1989, pp. 153–57), and Miller and Pulsinelli (1989, pp. 211–12).

As for objections, there have been only a few. Sechrest (1988, 1990), Carr and Mathewson (1988), and Cowen and Kroszner (1989)

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The author is Assistant Professor of Economics at Sul Ross State University.

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have posed challenges to White's historical work; while Munn (1985) and Goodhart (1987) have offered short critical reviews.

The issues to be raised here are (1) high bank failure rates, (2) note inconvertibility, (3) restrictions on small-denomination notes, (4) the Usury Law as a constraint on competition, and (5) the privileges of the chartered banks. It has yet to be demonstrated how these factors can be consistent with either "pure" free banking or any reasonable approximation thereto. This writer will gladly concede, however, that White has now rather plausibly dealt with one early criticism: namely, the suggestion that the Scottish dependence upon the London money market and the Bank of England for liquidity necessarily violated the principles of free banking (White 1989a, 20–34). Perhaps the key error committed by critics—including this writer—was a failure to distinguish ex ante from ex post dependence.

Much of the evidence presented in the following sections will be drawn from the survey of Scottish banking written by S. G. Checkland (1975), which White (1984, p. 33) has called "S. G. Checkland's authoritative chronicle of the industry." Moreover, White has declared that Checkland "is, of course, the authority on the facts" (letter to Peter Lewin and the author, 30 April 1986).

Bank Failures

Certainly one of the key dimensions along which one would want to measure the success of any banking system is the rate of firm failure. White must agree, for he provides a table comparing English and Scottish banks in the period 1809–1830, which shows the average annual failure rates per thousand as 18.1 and 4.0,[1] respectively (White 1984, p. 48). Not surprisingly, he concludes that Scottish banks were substantially less failure-prone and calls the Scottish system one of "remarkable monetary stability" (p. 23). However, the rates change dramatically when one examines a broader segment of the "free banking" period. Gathering data from Pressnell (1956, pp. 11, 537–38) and Checkland (1975, pp. 132, 177–78), one finds that from 1772 to 1830 the average annual failure rates per thousand for England and Scotland are 14.90 and 14.88, respectively (see Table 1). The rate for Scotland is thus *not statistically different* from that for England at the 99 percent confidence level.[2]

[1]Actually, White miscalculates the averages slightly. From his own table, the figures work out to be 17.54 and 4.46.

[2]To test the hypothesis that $\bar{X}_1 = \bar{X}_2$,

$$\sigma_{\bar{x}_1 - \bar{x}_2} = \sqrt{\frac{\sigma_1^2}{n_1} + \frac{\sigma_2^2}{n_2}} = 8.061$$

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It should be noted that making such a comparison over the longer time period surely conveys a more accurate picture than does White's table. Furthermore, this expanded comparison is consistent with White's own statement that "the act of 1765 left Scotland with free banking" (1984, p. 30).[3]

Convertibility

White (1984, p. ix) goes so far as to define free banking as "the unrestricted competitive issue of *specie-convertible money* by unprivileged banks" (emphasis is mine). And recently he has reaffirmed that the defining characteristic of competitive inside money "is its redeemability" (White 1989b, p. 368n). Thus, if convertibility was not, in fact, consistently practiced in Scotland, then one may conclude that a significant element of free banking was absent. Of course, before 1765 it is well known that immediate redemption did not always occur because banks sometimes invoked the "option clause," i.e., they delayed redemption in exchange for the payment of explicit interest to the noteholder. But what of after 1765, the year the option clause was made illegal?

Damaging to White's case is the declaration by Checkland (1975, p. 185) that

> the Scottish system was one of continuous partial suspension of payments. No one really expected to be able to enter a Scots bank . . . with a large holding of notes and receive the equivalent immediately in gold or silver. At best they would get a little specie and perhaps bills on London.

Checkland (1975, p. 184) adds that "much emphasis was laid on the loyalty of the banks' customers—requests for specie met with

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$$Z = \frac{\bar{X}_1 - \bar{X}_2}{\sigma_{\bar{x}_1 - \bar{x}_2}} = \frac{14.90 - 14.88}{8.061} = 0.00248.$$

Therefore, one cannot reject the hypothesis at the 99 percent confidence level.

In contrast, using White's figures,

$$\bar{X}_1 = 17.54 \quad \sigma_1 = 14.33, \quad n_1 = 22$$
$$\bar{X}_2 = 4.46 \quad \sigma_2 = 5.98, \quad n_2 = 22$$

$$\sigma_{\bar{x}_1 - \bar{x}_2} = \sqrt{\frac{\sigma_1^2}{n_1} + \frac{\sigma_2^2}{n_2}} = 3.31$$

$$Z = \frac{\bar{X}_1 - \bar{X}_2}{\sigma_{\bar{x}_1 - \bar{x}_2}} = \frac{17.54 - 4.46}{3.31} = 3.95.$$

Thus, one must reject the hypothesis at the 99 percent confidence level.

[3]More recently White (1989a, pp. 15–16, 35) seems to be retreating from his original position. Now he appears to defend only the period 1810–1844 as exemplifying free banking.

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TABLE 1

BANK FAILURES PER THOUSAND, 1772–1830

Year	England	Scotland	Year	England	Scotland
1772	n.a.	451.6	1802	7.6	0
1773	n.a.	0	1803	14.6	0
1774	n.a.	0	1804	14.5	0
1775	n.a.	0	1805	11.4	0
1776	n.a.	47.6	1806	4.2	0
1777	n.a.	0	1807	5.8	0
1778	n.a.	0	1808	5.2	54.1
1779	n.a.	0	1809	5.7	0
1780	n.a.	0	1810	25.6	27.0
1781	n.a.	41.7	1811	5.1	0
1782	n.a.	0	1812	20.6	0
1783	n.a.	0	1813	8.7	14.3
1784	25.2	0	1814	28.7	0
1785	n.a.	0	1815	27.3	9.0
1786	n.a.	0	1816	44.5	14.1
1787	n.a.	0	1817	4.0	0
1788	n.a.	0	1818	3.9	0
1789	n.a.	0	1819	16.5	0
1790	n.a.	0	1820	5.2	13.2
1791	n.a.	0	1821	12.8	66.7
1792	n.a.	0	1822	11.6	13.0
1793	17.9	90.9	1823	11.6	0
1794	3.7	0	1824	12.8	0
1795	n.a.	0	1825	46.4	12.0
1796	6.6	0	1826	53.1	11.1
1797	17.4	0	1827	11.9	0
1798	12.8	0	1828	4.5	0
1799	n.a.	0	1829	4.4	11.4
1800	8.1	0	1830	20.9	0
1801	10.4	0			

SOURCES: White (1984, p. 48), Checkland (1975, pp. 132, 177–78), and Pressnell (1956, pp. 11, 537–38).

NOTES: mean (England) = $\bar{X}_1$ = 14.90, mean (Scotland) = $\bar{X}_2$ = 14.88, standard deviation (England) = σ_1 = 12.90, standard deviation (Scotland) = σ_2 = 60.01, observations (England) = n_1 = 37, observations (Scotland) = n_2 = 59.

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disapproval and almost with charges of disloyalty." Frank W. Fetter (1965, p. 122) agrees with Checkland: "To a large degree there was a tradition, almost with the force of law, that banks should not be required to redeem their notes in coin. Redemption in London drafts was the usual form of paying noteholders." Similarly, Henry Meulen (1934, p. 136) alleges that the typical Scottish banker "paid notes instead of gold to any depositor who might call, and thus was able to operate with a smaller reserve of gold than would otherwise have been necessary."

Curiously, White (1989a, p. 36) claims that statements such as the foregoing have been rebutted by Kevin Dowd (1989). In fact, Dowd (1989, p. 156) agrees that "Scottish notes were imperfectly convertible, even after the passage of the 1765 Act." What Dowd (pp. 156–57) does dispute is that such inconvertibility represented a departure from free banking. And yet both White (1984, pp. 6–19) and Selgin (1988, pp. 94–96) have argued forcefully that (1) free banks issuing debt-based (i.e., specie-convertible) notes and deposit credits are constrained from overissuing such liabilities by the fact that these firms face rising marginal costs, and (2) these marginal costs rise principally because of liquidity costs, i.e., the costs of acquiring and holding specie for the purpose of redemption in the course of either interbank or bank-customer transactions (the processes of "adverse clearings" and "reflux").

In the absence of convertibility "free banks" would experience a much-relaxed constraint on overissuance. Indeed, when discussing "free banking" in Michigan, Dowd (1989, p. 137) states that "the suspension of convertibility removed the main check against overissue, and so a monetary explosion was to be expected." Clearly, convertibility is essential to any (specie-based) system that merits being characterized as "free banking."

Small-Denomination Notes

In 1765 the British Parliament imposed on Scotland legislation that prohibited not only the option clause but also the issue of notes smaller than one pound. The option clause has been often discussed (see, e.g., Selgin 1988, pp. 137, 161–62) and Dowd (1989, pp. 119, 122), but the prohibition of small-denomination notes seems to have received little attention.

Three aspects of this are of importance. First of all, one needs to realize that the one-pound note of 1765 had roughly the purchasing

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power of $150 to $170 in the United States today.[4] The implication is that, after 1765, many day-to-day transactions could not be conducted in terms of banknotes; recourse to coins was necessary. And the control of coinage rested with the Royal Mint and the Bank of England (Clapham 1958, vol. 2, pp. 51–53). In other words, Scottish banks were systematically excluded from competition by means of notes for the business of those whose currency needs were relatively small in scale.

This restriction likely had two further effects. It may have served as a "barrier to entry" for small banks since it might deny them the "niche strategy" of catering to small entrepreneurs and to the less wealthy consumers. Furthermore, since small-denomination notes always tend to circulate more rapidly than those of large denominations (White 1984, p. 8), it would seem that the Act of 1765 must have reduced to some extent the effectiveness of the "reflux" process: it should have raised the average period of circulation for Scottish banknotes and, thereby, increased the possibility of inflationary overissues. And, consistent with this hypothesis, one finds Adam Smith's observation in 1776 that in Scotland "the circulation has frequently been over-stocked with paper money" (Smith 1937, p. 286). One may add to this the facts that (1) food prices fell from 1717 to 1750 but rose strongly in the latter part of the 18th century, as did coal, cattle, and grain prices, and (2) Scottish net exports declined after 1775, and were generally negative from 1780 to 1805 (Lythe and Butt 1975, pp. 102–3, 113, 116–17, 162, 247). All of this suggests—but does not prove—the existence of an inflationary monetary expansion.

Interest Rate Ceilings

In 1714 the Usury Law, to which the Scottish banks were subject, established a legal maximum rate of 5 percent to be charged by financial institutions. The last remnants of this law did not disappear until 1854 (Clapham 1958, vol. 2, p. 224). Of these facts there can be no doubt. However, White has questioned, first of all, whether the 5 percent ceiling applied to one of the key sources of revenue for Scottish banks—the discounting of commercial bills of exchange (letter to Peter Lewin and the author, 30 April 1986). It did indeed: the Usury Law was applicable to "the entire bill market" until 1833, when 90-day bills were made exempt (Homer 1963, p. 205).

[4]Cowen and Kroszner (1989, p. 224) cite an estimate of $200. My estimate is based on the facts that British prices are presently 90 to 100 times the level of 1765 (Mitchell 1988, pp. 719–34) and that the exchange rate is $1.70 per pound.

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Also, in the same letter cited above, White wonders if this ceiling was ever a "binding constraint." If one takes that phrase to denote a circumstance in which market rates of interest are driven above the maximum legal rate, then one must apparently answer in the affirmative. Lythe and Butt (1975), while discussing Scottish finance in the 18th century, note that "the price for capital might be higher than the legal maximum bank rate" (p. 155). Since consols issued by the British government were not subject to the Usury Law (Homer 1963, p. 205), one might take the yield on consols to be a reflection of market conditions. And, in the years 1781, 1782, 1784, and 1796–99, this yield exceeded 5 percent (Homer 1963, pp. 161–62). During the long Napoleonic Wars (1793–1815), effective market rates were often above the maximum legal rate (Homer 1963, pp. 186, 205).[5] Short-term market rates also rose above 5 percent during the years 1836, 1837, and 1839–41 (Homer 1963, p. 208).[6] It is possible that short-term rates were greater than 5 percent during part of 1826 as well, since the average of such rates for that year was 4.5 percent (Mitchell 1988, p. 683).

It would seem from the foregoing that the interest rate ceiling must, in fact, have been a constraint on bank competition during at least part of the 1765–1845 period. Checkland (1975, pp. 432, 192) concurs when he states that "the Usury Law limited competition for deposits" and that its effect on "any form of advance was seriously prohibitive." This assessment is echoed by Meulen (1934, p. 92).

Privileged Banks

One may recall White's definition of free banking as a system of "unprivileged private banks." Yet there were two tiers to the Scottish system: (1) three chartered "public" institutions (the Bank of Scotland, the Royal Bank, and the British Linen Company), and (2) the various private banks and joint-stock banking companies. Since the three public banks enjoyed limited shareholder liability while the others were all subject to unlimited liability, Checkland (1975, p. 235) concludes that the former "were in a preferred position relative to all others." The state had created these public banks and "continued to confirm their preferred position through their limited liability and through their public identity and perpetual succession"

[5]Considering the substantial inflation in Britain during the period, it is hardly surprising that this should be the case (see Mitchell 1988, p. 720).

[6]It is unclear whether this posed an impediment to bank competition, since bills of exchange and promissory notes were exempt from the Usury Law after 1833 (Checkland 1975, pp. 192, 443).

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(Checkland 1975, p. 275). It would thus seem that the non-chartered banks faced a significant regulatory barrier to entry: unlimited liability. This did not prevent the formation of a number of private banking concerns, but it imposed a constraint on such firms that was not applicable to the three chartered banks.

White, however, asserts that unlimited liability must not have been a binding constraint on the private banks because they "chose to retain unlimited liability in the 1860s and '70s even after limited liability became available to them" (White 1984, p. 143). To argue thus is less than convincing. Institutional structures must be viewed contextually: the fact that Scottish banks of the 1860s seem not to have seen unlimited liability as an odious imposition does not prove that it was not considered to be such in, say, 1780 or 1810. And there is a powerful counterpoint that one must consider. Since the three public banks expended real resources in order to obtain their charters and prevent other banks from gaining charters, one must conclude that a limited liability bank charter was perceived as conferring some significant advantage on its holder (Cowen and Kroszner 1989, p. 226).

A specific advantage of limited liability was the fact that "there was a long-standing government instruction to the officers of the customs to accept only the notes of the chartered banks in payment of duties, and to 'refuse the Notes of every other bank without exception' " (Checkland 1975, p. 186). In short, an artificial demand for the notes of the public banks was established by fiat. Yet one might wonder if the payment of customs duties was of a magnitude sufficient to produce a significant gain for those institutions. One possible measure is the proportion of total government revenues represented by customs duties. One finds that customs duties averaged 22.3 percent of annual government income over the period 1765–1801 and 27.6 percent from 1802 to 1845 (Mitchell 1988, pp. 576–77, 581–82).[7] The collection of customs duties—and, therefore, the benefit to the public banks—seems not to have been trivial.

Conclusion

Lawrence H. White's portrait of Scottish "free banking" is not entirely convincing. The failure rate (1772–1830) for Scottish banks was not lower than that for English banks; banknotes were not consistently convertible into specie on demand; the prohibition of small-denomination notes not only curtailed mutually beneficial transac-

[7]These figures are for Great Britain as a whole; separate series for Scotland do not seem to exist.

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tions between banks and their customers but also may have diluted the constraints on overissue; the Usury Law limited interbank competition; and the three chartered banks held privileged positions within the system. The case for free banking does not greatly benefit from reliance on the Scottish experience.

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Free Banking in Scotland: Reply to a Dissenting View

Lawrence H. White

I appreciate Larry J. Sechrest's critical attention to the historical record of free banking in Scotland, and to my 1984 book in particular. He has identified some issues that bear further study. I fear, however, that many of his statements confuse rather than clarify matters.

My book advanced the thesis, certainly not original with me, that Scottish banking experience from 1716 to 1844 provides important evidence on the features and behavior of a "free banking" system. In the academic discussion of free banking over the last few years, several economists including Sechrest have criticized or questioned aspects of the thesis that Scotland had a reasonably close approximation to free banking. I have replied to a number of these criticisms in two recent pieces (White 1990, 1991).

I am pleased to see that my 1991 piece has persuaded Sechrest to withdraw his earlier argument (Sechrest 1988, p. 255) that the Bank of England acted as a central bank for the Scottish banks. I am disappointed that Sechrest finds it necessary to repeat in the *Cato Journal* several of the other arguments he and other critics have made elsewhere. Evidently I have not yet answered these remaining criticisms persuasively enough, or acknowledged them frankly enough, to satisfy Sechrest. Nonetheless I refer the interested reader to my previous replies for a broader defense of the thesis. I apologize for the repetition necessary in what follows.

Sechrest quotes my earlier statement (White 1984, p. 137) that Scottish experience "provides unique evidence on the workability of monetary freedom." I would no longer use the word "unique"

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here (see White 1991, p. 59, n. 2), because recent studies have turned up relevant evidence from the experiences of several other countries. Kurt Schuler (1991) counts Scotland as one of some 27 known historical cases of plural note-issue subject to no more than mild legal restrictions. Thus the case for free banking no longer needs to be "intimately tied," as Sechrest puts it, to the Scottish example. But I still contend that the Scottish case provides useful evidence on the workability of monetary freedom. That is, it represents a relatively (though not completely) unrestricted banking system, as well as a successful banking system.

Sechrest disputes both the freedom of the Scottish system and its success. He disputes its success, as he has done before (Sechrest 1988, pp. 251–52), by recomputing bank failure rates. He disputes its freedom, as he has done before (Sechrest 1988, pp. 248–51, 254–55), by raising questions about note inconvertibility, the usury ceiling, and the privileges of the chartered banks. He has withdrawn the charge that the Bank of England acted as a central bank, but has added the question, previously raised by other authors, of restrictions on small-denomination notes.

Bank Failures

I acknowledged but did not address Sechrest's argument about bank failure rates in my 1991 piece. Given that he has reiterated the argument, I am glad to have the chance to address it here.

Let me first clear up a matter of minor importance. In a footnote Sechrest finds discrepancies between the columns of figures and the column averages given in my table of English and Scottish bank failures, 1809–30 (White 1984, p. 48). For the column of English bankruptcies, the discrepancy is easily explained. My result of 18.1 (English bank failures per year per 1,000 banks) was reached by dividing the average number of bankruptcies per year (311/22, or approximately 14.1) by the average of annual numbers of banks (17,198/22, or approximately 781.7), and multiplying by 1,000. Sechrest evidently reached his result of 17.54 by averaging the figures in my column of yearly bankruptcies-per-1,000. My procedure weights all failures equally, whereas his procedure weights less heavily a failure that took place in a year with more banks. Because more than half the English failures occurred in years with more than 781.7 banks, his result is slightly smaller. Either procedure is defensible.

The discrepancy in the Scottish figures is due to a similar difference in procedure, plus the appearance of a regrettable typographical error in my column of figures (but not in my average). The 9 (nine)

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in my 1815 row should have been a 0 (zero). That is why, unlike my other non-zero figures, it is not followed by a decimal point and a digit to the right. I thank Sechrest for helping to bring this to light.

More serious than these discrepancies is Sechrest's claim that a longer time series produces nearly identical failure rates in England and Scotland. My table was limited to the years 1809–30 because I relied on Gilbart's (1837, p. 110) figures, which were limited to those years. Sechrest proposes extending the series to earlier years, and recomputes the average annual failure rates for 1772–1830. As is indicated by his reporting unequal numbers of Scottish and English observations, Sechrest has actually been able to extend only the Scottish series as far back as 1772. His English series has no observations for years before 1784, for 1785–92 inclusive, for 1795, or for 1799.

Extending the series backwards is certainly unobjectionable in principle. But the year 1772, at which Sechrest begins his series, happens to be the year of the Ayr Bank crash, by far the most spectacular crash during the free banking period. By S. G. Checkland's count (1975, Table 2, pp. 134–35) that year saw the failure not only of the Ayr Bank, a large provincial banking company, but also the related failures of two of the "larger" private (non-issuing) bankers, and 11 of the "lesser" private bankers. In total, counting all private bankers as the equivalent of other banking firms,[1] 14 of 31 existing banks failed in 1772. Had Sechrest begun his series with 1773, he would have reported an average of 7.3 Scottish bank failures per year per 1,000 banks. By including 1772 he was able to report the result of 14.88 failures per year.

But why stop at 1772? In Sechrest's words, "making such a comparison over the longer time period surely conveys a more accurate picture." Checkland's tables make it possible to extend the data series back to 1716, the year the Bank of Scotland's statutory monopoly lapsed.[2] Going back to 1716, accepting Sechrest's annual figures

[1]A footnote to my original table (White 1984, p. 48) stated that I excluded non-issuing banks from counts of both Scottish banks and bank failures, because non-issuing English banks were not included in the English figures taken from Gilbart. In fact, I evidently counted the failure of David Patterson in 1813, a private banker who probably did not issue notes. The footnote also explained that I had attempted to adjust the Scottish bank numbers to match the way in which English banks were (over-) counted. Sechrest's figures indicate that he has not followed me in either regard in his revisions, though he has retained most of the annual Scottish failure rates from my table as is.

[2]Sechrest (1988, p. 251) seems to think that I define the Scottish free banking era as beginning in 1765, but this is a misinterpretation. My book (White 1984, esp. p. 38) identifies the starting point as 1716. The earlier years of course display a less well-developed free banking system.

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for 1772–1830, and using his column-averaging procedure, yields a result of 7.98 for average annual Scottish bank failures per 1,000 over the entire 1716–1830 period.[3] Revising Sechrest's figures for 1809–30 to make them more consistent with Checkland lowers the result for 1716–1830 to 7.29, less than half the figure Sechrest reports for 1772–1830.[4]

Is the difference between 7.29 (Scotland 1716–1830) and 14.90 (Sechrest's figure for England 1800–30 plus six earlier years) significant? In comparing his two series for the 1772–1830 period, Sechrest concludes that "the rate for Scotland is thus *not statistically different* [his emphasis] from that for England at the 99 percent confidence level." He reports the numbers of observations and standard deviations, and uses these numbers to compute a Z statistic, on which he bases his conclusion about the difference between mean failure rates. It might seem appropriate to re-run Sechrest's test for statistical significance using the longer Scottish series just mentioned. In fact this would not be appropriate, because tests for statistical significance are simply out of place here.

The statistical method Sechrest uses is appropriate for testing the hypothesis that the means of two *random samples* with known standard deviations are equal (see Harnett and Murphy 1980, pp. 357–59;

[3]Checkland records several closings, but none labelled failures, before 1772.

[4]In addition to extending the time period covered, Sechrest has revised my 1809–30 series for Scotland. Though he does not detail the reasons, I believe that they can be inferred from Checkland's Tables 3 and 9 (1975, pp. 177–79, 320–21). I thank Sechrest for compelling me to check my table against Checkland's tables, thus bringing to light a few discrepancies regarding the dates of Scottish bank failures. I find, unfortunately, that there are also discrepancies between Sechrest's revised column and Checkland's tables. Sechrest has added a failure in 1810, consistent with Checkland's recording the failure of Allan and Stewart, a firm Checkland groups among lesser private bankers. Sechrest has added two failures in 1821, although Checkland records only one: the Galloway Banking Company was "wound up," which we may count as a failure; the Kilmarnock Banking Company also ended in 1821, but through merger rather than failure (Checkland 1975, p. 321; contrast also Sechrest 1988, p. 254). My column indicates a failure in 1820, though Checkland records none. I surmise that my 1820 figure was meant to reflect the one 1821 failure, as my table indicates no failure in 1821. I apologize for the misplaced figure. Sechrest does not reduce my 1820 figure to zero to accord with Checkland, however. In sum, I believe Sechrest has overcounted total failures in the 1809–30 period by two. He also has retained the erroneous "9" in my 1815 row, though Checkland records no failures in that year. Adjusting for these discrepancies by restoring the 1815 and 1821 rows to zero yields the figure of 7.29 reported in the text.

For the sake of completeness, I should also note an error of omission in Checkland's Table 9. Its list of Edinburgh private bankers lacks an entry #4 (it jumps from #3 to #5). From Table 3 (p. 177) and the text (p. 404) it is evident that Checkland meant to include Scott, Smith, Stein, and Company, a firm that ended (Checkland does not say failed) in 1812. Checkland provides no founding date.

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or presumably any other introduction to statistical analysis). That is, the test tells us how likely it is that the *true* population means are equal, and that the observed difference in sample means could have been due to random sampling variations. But in the present instance we are not dealing with random samples. We have the *entire population* of annual failure-rate figures for Scotland, and thus we can observe the true population mean. For England we have the entire population of figures for 1800–30, plus a *non-random* sample of figures from earlier years.[5]

Consequently the question to ask is whether the difference between 7.29 and 14.90 is economically significant, not whether it is statistically significant. This difference looks "big" to me. The difference between 4.46 and 17.54, Sechrest's Scottish and English averages for 1809–30, is even bigger.[6] The second contrast is fairer, because the first draws failure rates from different sets of decades. If both systems became less failure-prone over time, it is unfair to contrast Scotland's earlier-plus-later performance with England's later-only performance.

The length of my discussion of this issue, I fear, puts more emphasis on raw bank failure rates than is warranted by their intrinsic importance. A bank failure may involve anywhere from large losses to zero losses for bank customers (note and deposit holders), and anywhere from large losses to small losses for bank shareholders. Most Scottish bank failures (including even the Ayr Bank failure) involved zero losses for customers because shareholders had unlimited liability, and the number of shareholders (or partners) was not restricted. In England the number of bank shareholders was limited to six before 1826. Total losses per capita from all bank failures appear to have been *much* smaller for Scottish than for English bank customers in the years before 1844 (White 1984, p. 41, citing Aytoun 1844, p. 678). An effort to better measure *this* difference between the two systems would be genuinely useful.

Convertibility

As I have said elsewhere (White 1991, p. 60, n. 9), I am troubled by Checkland's and Fetter's statements to the effect that Scottish

[5]Furthermore, even if the failure-rate data had represented random samples from larger populations, they are not normally distributed around their means, as would be required for valid use of the significance test Sechrest performs. Most of the Scottish figures are zeros, and none in either series is less than zero.

[6]Using unadjusted Scottish bank numbers, Scotland had 8.8 bank failures per thousand banks per year over the period 1809–30.

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banks discouraged or rebuffed customers who requested specie. I would have thought that one of the ways banks competed for note-holding customers was to make notes easier to redeem. I had assumed that customers were sufficiently concerned about easy specie redeemability that providing it in any amount without hesitation was a cost-effective way of attracting customers. If Checkland's statements are correct, then one must question this assumption.[7] Perhaps other qualities, no more costly to provide, were more important to Scottish bank customers than the ability to redeem unusually large batches of notes for specie without question or hassle.

Alternatively, one might question (as Sechrest apparently does) the premise that the banks were competing. I would find this premise much harder to discard, because there is ample evidence of vigorous competition among the banks (White 1991, pp. 45–47; 1990, pp. 530–31). Checkland (1975, p. 185), in a sentence just before the longer passage that Sechrest quotes, states that "the banks separately, and *in competition with one another* [emphasis added], had developed the means of maximising their issues and minimising the specie they paid out." Competitive bidding for loans and deposits kept the spread between loan and deposit rates commonly as narrow as the 1 percent spreads earned by money market funds today, and sometimes even narrower. Checkland (1975, pp. 384–85) comments that "banking in Scotland [before 1850] had traditionally involved competition in terms of both rates. Between 1810 and 1828, profits on deposits had seldom exceeded 1%, the difference between an average deposit rate of 3% and a lending rate of 4%, or between respective rates of 4% and 5%." Charles W. Munn (1981, pp. 147–48) adds:

> Throughout the 18th century and into the 19th the interest allowed on deposits of all kinds was 4 per cent, i.e. 1 per cent below that charged on advances. Some companies, notably the Thistle Bank, were of the opinion that this was an insufficient margin to afford them an adequate profit. They were nevertheless aware that unilateral action on their part to change the rate would almost certainly lead to an outflow of deposits to banks which kept the old rates. . . . Graham of the Thistle Bank did not give up hope of [collusive] action to reduce deposit rates but nothing came of his endeavours.

I cannot imagine how these facts could be reconciled with any thesis other than the thesis that Scotland had a competitive banking

[7]Unfortunately the late Professor Checkland cannot now tell us what evidence he had for the statements Sechrest quotes. His book does not specifically cite sources for them. Checkland (1975, p. 184, n. 3), following a paragraph concerning a number of policies banks used in competing for shares of the note circulation, does cite "Sundry Memorandums, September 1789, *Innes of Stowe Papers*, SRO." I have not been able to consult these papers.

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industry. I will return to this issue below in the section on privileged banks.

Sechrest finds curious my citation of Kevin Dowd in rebuttal to the claim that Scottish notes were not in practice redeemable on demand. Dowd (1989, p. 155) quotes with emphasis the same sentence in Fetter (1978, p. 122) that Sechrest quotes: "Redemption in London drafts was the usual form of paying noteholders." This sentence means that, even accepting Checkland's statements at face value, the Scottish notes *were* still redeemable on demand. The usual redemption medium was drafts on London, rather than specie. Attenuation of *specie* redeemability, supposing that it can be documented, does not equal lack of *any* redeemability. Notes and deposits were still debt claims redeemable for a reserve money, banks still faced adverse clearings, and marginal liquidity costs associated with holding reserves still constrained overissues.

Small-Denomination Notes

Sechrest brings up the Act of 1765 almost as if to suggest that I was unaware of it. Yet he clearly knows I have discussed it, for earlier he quotes my statement (White 1984, p. 30) that the act "left Scotland with free banking." He neglects to quote the qualifying clause that makes up the rest of the sentence: "though it raised an entry barrier against very small-scale banks of issue." His repeating the entry-barrier point does not pose any difficulty for my analysis. I recognize that Scotland did not have absolutely pure laissez faire. As my 1991 piece discusses in more detail, the free banking thesis does not require such a fact not in evidence. It only requires that the legal restrictions in place were relatively mild, did not prevent effective competition, and did not seriously distort institutional development. The small-note ban put in place in 1765 did not appreciably slow the pace of entry into the Scottish banking industry.

Though I am not averse to ascribing negative consequences to the ban on small notes, I frankly find it difficult to make much sense of Sechrest's hypothesis that the small-note ban promoted inflationary overissues. (Many proponents of such a ban have believed that it would have the opposite effect.) By lopping off the quickest-turnover notes at the bottom end of the spectrum, the ban may well have raised the circulation period averaged over the entire spectrum of denominations, but that hardly seems relevant. The question is whether banks were now more able to overissue the denominations of notes they could still issue. I do not see that the small-note ban would have raised the average period of circulation, and thereby

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attenuated the reflux of £1, £5, or other denominations of notes remaining in circulation.

To support the hypothesis that Scotland suffered an inflationary monetary expansion after the Act of 1765 banned small notes, Sechrest quotes Adam Smith's (1981, p. 302) statement that in Scotland "the circulation has frequently been overstocked with paper money." The text surrounding Smith's statement, however, in no way indicates that Smith was describing events *after* 1765. Sechrest's attempt to invoke Smith's authority here is rather ironic. Smith (1981, pp. 322–24) *defended* the small-note ban (as a paternalistic measure to protect poor people from possible defaults by "beggarly bankers"). At the same time Smith (1981, p. 324) denied, and provided direct evidence against, the hypothesis that Scotland had suffered price inflation on account of an overissue of banknotes: "The proportion between the price of provisions in Scotland and that in England, is the same now as before the great multiplication of banking companies in Scotland." To support his hypothesis Sechrest would have to do more than cite the behavior of selected Scottish prices. He would have to show that Scottish prices were not tracking world prices.

Interest Rate Ceilings

My 1984 book neglected to discuss the possible effect of the usury ceiling on Scottish banks. I thank Sechrest for pointing this out, and for citing some evidence regarding when the ceiling might have been binding. The evidence he cites seems to indicate that, apart from the 1797–1819 Restriction period, the ceiling was seldom binding. If so, then my omission was perhaps not all that serious. Sechrest reports that British consol rates were above the 5 percent ceiling on other rates in only three years before the Restriction period (1781, 1782, 1784). He also reports that short-term rates were usually above 5 percent in 1836–41, but notes that this was after the usury ceiling had been removed from bills of exchange and promissory notes.

On the other hand, we have the statements of Munn and Checkland, quoted above, that Scottish banks in many periods charged the legal maximum rate on advances (see also Checkland 1975, pp. 184, 192). The ceiling may often have constrained the banks in those periods, forcing them to engage in nonprice rationing of credit, though we do not know just how often or by how much.[8] I am not

[8]Checkland (1975, p. 192) comments that the ceiling was binding "when, in times of pressure, interest rates on deposits rose in Scotland, [because] a bank had no means of compensating by raising the cost of borrowing to its customers beyond 5%, but was thus obliged to accept a diminished net income." Checkland calls this effect, by the way, "seriously *in*hibitive," not "seriously *pro*hibitive" as Sechrest renders it. The same slight misquotation occurs elsewhere (Sechrest 1988, p. 254).

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aware of any evidence showing that the ceiling seriously distorted banking institutions. Further study of this question may be warranted.

Privileged Banks

Finally, Sechrest reiterates points he (1988, pp. 250–51) and others (Carr and Mathewson 1988; Carr, Glied, and Mathewson 1989; Cowen and Kroszner 1989) have elsewhere made concerning the privileges of the chartered banks. My earlier pieces respond at length (White 1990, 1991). To summarize my reply: yes, there were deviations from laissez faire. The chartered banks did receive some rents worth protecting because only their notes were accepted for customs duties. The limitation of new entrants to unlimited liability might in principle have been a binding legal constraint. But neither item seems to have been an important limitation on competition in practice.

As Sechrest recognizes, unlimited liability did not prevent entry. Before 1810 the chartered banks were larger than the newer banks, perhaps because a charter provided a cost advantage in raising capital. Even so the chartered banks competed among themselves, and their branches competed with the provincial banking companies. After 1810, the year in which the Commercial Bank of Scotland entered, the size difference disappeared. Unlimited liability did not prevent large joint-stock banks from entering and surviving in the industry on a scale equivalent to that of the chartered banks. The three chartered Scottish banks clearly faced strong head-to-head competition from other banks after 1810. It is for this reason that my 1991 reply-to-critics piece emphasizes the 1810–1844 period, to answer the pointed question Sechrest raises in his footnote 3. I do not mean to exclude the earlier period, though I am willing to grant that the privileges of the three chartered banks may have affected the relative sizes of banks during the earlier period.

Competition among the chartered and joint-stock banks was vigorous in all important aspects of banking: note-issuing, deposit-taking, lending and discounting, letters of credit, inland exchange. Here the evidence on narrow interest spreads, and the inability to collude successfully, is again relevant.

Conclusion

Sechrest has pointed out, as others have, that Scottish banking before 1844 was not absolutely and purely free of legal restrictions. Of course, my book did not claim that it was. The question, then, is

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whether each of the restrictions present was severe or mild, i.e., whether its impact was seriously distortive or not. I share what I take to be Sechrest's concern that we should not draw general conclusions, concerning the practical features of free banking systems, from any aspects of the Scottish system that were seriously distorted by legal restrictions. I do not believe that he has actually shown any serious distortions. He has identified some relevant areas for inquiry, particularly with regard to the impact of the usury law. His claim that the failure rate for Scottish banks "was not lower than that for English banks" does not hold up, especially when we compare rates across the same decades.

If there were serious distortions in the Scottish system, how could that be shown? It could be shown by investigating other countries even closer to laissez faire, or at least without the specific legal restrictions present in Scotland, and finding that important features of the monetary and banking system were significantly different in ways not attributable to legal restrictions in the other countries.

Until such findings come to light, I will continue to believe that the free banking model is relevant to Scottish banking, and that Scottish banking before 1844 provides useful evidence on free banking. Scotland offers a closer approximation to laissez faire than most other countries with plural note issue. The case for free banking can therefore continue to benefit from the Scottish experience.

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Sechrest on Scottish Free Banking

Kevin Dowd

Larry Sechrest offers a thoughtful and stimulating perspective on Scottish free banking, which makes a very useful contribution to the free banking controversy. I would like to focus my comments on three main points.

The first is the relative failure rate between English and Scottish banks, which presumably sheds some light on the crucial issue of whether the Scottish free banking system was more stable than its regulated English counterpart. I do not believe that the data support Sechrest's claim that the Scottish failure rate was as high as the English one. Let X be the difference between the English and Scottish failure rates. We wish to discriminate between Sechrest's null hypothesis that X has a mean of zero, and White's alternative hypothesis that the mean of X is positive. Sechrest estimates the means of the English and Scottish failure rates using different observations for each and finds that these means are so close that his null hypothesis cannot be rejected. However, this procedure is only valid if each of the English and Scottish failure series can be assumed to be random samples from populations that have trendless means and variances, and these requirements rule out any systematic (or trend) behavior in bank failure rates.

A more defensible procedure would be to suppose that the difference between the failure rates is a random sample with the required properties—systematic influences on bank failures would then be allowed provided they did not affect the relative failure rate. A t-test on Sechrest's 37 observations of the difference between the failure rates then gives a test statistic of 1.52, which has a probability value between 10 percent and 5 percent. This result gives considerably

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The author is a Lecturer in Economics at the University of Nottingham and a Fellow of the Durell Foundation. He thanks Larry Sechrest and Lawrence H. White for permission to use their data.

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less support to Sechrest's null hypothesis than his own test purports to give, but we would still accept his null hypothesis if we adopted the conventional 5 percent decision rule. To assess how robust this conclusion might be, I dropped the first two observations—1784 and 1793—and repeated the exercise with the remaining data. The test statistic then came out to be 2.34, which has a probability value of around 2.5 percent and indicates that we would now reject Sechrest's hypothesis in favor of White's. We also get much the same result if we use Sechrest's data over the 1809–1830 period that White covers, and we get a much stronger rejection of Sechrest's null hypothesis if we use White's data for the same period. (The first exercise gives us a probability value of around 2.5 percent; the second gives one that is negligible.) Sechrest's conclusion is thus acutely sensitive to the choice of data set as well as to the period covered.

These calculations lead me to the conclusion that the balance of evidence so far favors White's hypothesis over Sechrest's, but there is an obvious need for further work to focus on the derivation of the data and on the sensitivity of the results to plausible modifications in the inference method, the period covered, and the data set itself. I would also stress that the ultimate issue is not about bank failure rates per se, but about the relative stability of the two banking systems, and there are other indicators of relative stability besides the comparative failure rate. The relative volatilities of interest rates and bank lending come readily to mind, and these factors also need to be looked at before we can pass a reasonably definitive judgment on the relative stability of the Scottish banking system.

Turning now to the convertibility issue, let me begin by outlining what I understand free banking theory to predict. Competitive pressures would force banks to make their issues convertible, but in a mature free banking system we would not expect it to be efficient for banks to redeem their issues with the same commodity as that whose banknote price they peg (i.e., the medium of redemption would differ from the medium of account). The currency would therefore be "indirectly" convertible—banks might use financial instruments to redeem their issues, for example, but those financial instruments would have a given value in, say, gold. We might also expect bank issues to involve an "option clause" that would give the bank the choice of deferring redemption for some period provided it compensated the holders later on. (It was unfortunate that I described option clause convertibility as "imperfect" in my book [Dowd 1989, p. 156]. I am grateful to Sechrest for making me see how misleading that label is.) It follows that we would not expect free banks on a gold standard—such as the Scottish banks—to use gold to redeem their

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issues, and we must also reckon with the possibility of an option clause.

The evidence Sechrest presents demonstrates only that the Scottish banks did not issue a "directly" convertible currency. This point is a useful one to make—I tried to make it myself in Dowd (1989, pp. 156–57)—but I see it as *confirming* rather than rejecting one of the predictions of free banking theory. It certainly does not establish, as Sechrest seems to suggest, that the Scottish currency was inconvertible as such, and there is other evidence to suggest that the inconvertibility hypothesis is rejected. The fact that the Scottish banks resumed their normal redemption policies after the Bank of England suspended specie payments in 1797 indicates how competitive pressures compelled the banks to maintain convertibility. And the apparent absence of any major discrepancy between the value of the Scottish pound note and gold for most if not all the free banking period would seem to confirm the convertibility of the Scottish currency. (Let me suggest, however, that the issue can be settled reasonably definitively by compiling a series on the price of gold in terms of Scottish pound notes. The inconvertibility hypothesis predicts that the series should be non-stationary, i.e., trended. I believe that this prediction would be rejected.)

Let me make one last point. Sechrest presents evidence that the small-notes ban, usury laws, and privileges of the larger banks meant that the Scottish banking system departed in significant ways from the theoretical ideal of a laissez-faire banking system. I readily acknowledge that there were (unfortunately) important departures from the laissez-faire ideal, but the key issue is not how "pure" Scottish free banking actually was, but the extent to which these departures invalidate specific conclusions we may draw from a free banking interpretation of the Scottish experience (such as White 1984, 1990, 1991). I see no reason to believe that these departures invalidate the important conclusions (a) that the Scottish banking system was more stable than the English one, or (b) that it issued a convertible currency.

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Working for Irving Fisher

Hans Cohrssen

I have had the exceptional good fortune to meet an exceptional personality, and work for him for 10 years—from 1932 to 1942. In 1932 the country was engulfed by the Great Depression. Together with millions of others, I had lost my job in New York. Six of us—an engineer, a schoolteacher and his wife, a mechanic, a clerk—shared an apartment, at the cost of less than $8 a month per person. What had gotten us together was our commitment to the teachings of Silvio Gesell, a German businessman, who had attributed a large share of the world's economic problems to monetary causes, specifically to monetary instability.

I had decided to "do something" about the Depression. It did not take me long to realize that I was ill-equipped for the task. That is how I landed at the office of the Stable Money Association, which Irving Fisher and his friends had founded in the early 1920s to promote monetary stability. It turned out I was the only user of its special library. As I learned later, Fisher personally had selected the titles. Mr. Birdwell, the man in charge, soon became ill, but before he went to the hospital he gave me the key to the place. Soon afterwards he died. I called up Professor Fisher to ask what I should do about the key. If I was interested, he said, I should take the books home, and turn the key over to the janitor. That library became the basis of my economics studies—hand-tailored to prepare me to work for Fisher.

The Stamp Scrip Scheme

At the moment, however, I was active on behalf of the "Free Economy League," which we had formed to promote Gesell's

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The author is a founder of the Irving Fisher Society and resides in Frankfurt, Germany.

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solution to the country's economic stagnation: to issue "stamp scrip," emergency money that lost 2 percent of its nominal value every week unless a stamp was placed on a dated space on its reverse side. This weekly 2 percent fee would tax this scrip out of existence; it would make it self-liquidating. It would have paid for itself after one year. In two small communities—Schwanenkirchen in Germany and Wörgl in Austria—this type of scrip had been issued and actually relieved unemployment. I had just written an article about the Wörgl experience for the *New Republic*, when I read that Fisher had stated there was enough money in existence to pull us out of the Depression. The problem was that it was hoarded and there was no way to force it into circulation. I phoned him to call his attention to the Wörgl experience. He asked me to join him at the Yale Club. He had received quite a few letters on the subject; would I help him answer them? The resulting correspondence, some 20 filing boxes, is now in the manuscript section of the New York Public Library.

Fisher soon felt there was need for a handbook that would answer the questions generally asked on how to successfully issue stamp scrip. I helped him write it. As I remember, there were two editions of *Stamp Scrip* (1932). Senator Bankhead (Alabama) and Congressman Pettingill (Indiana) introduced identical bills for the issue of $1 billion of national stamp scrip to pay for labor-intensive public works programs.

Altogether some 450 communities wanted to issue stamp scrip as a means of easing their dire financial situations. One of them, Reading, Pennsylvania, had asked Fisher to personally supervise the issuance of $100,000 of such scrip. He sent me. We had the bills and stamps printed, and properly dated on the back. The Chamber of Commerce acted as sponsor. The labor unions agreed to cooperate, and so did the banks, the business community, and the organized farmers. All was ready to start early in March 1933. But on March 4th, in his Inaugural Address, Roosevelt closed the banks and forbade the issue of money substitutes. I returned to New Haven.

Meanwhile, the State of Oregon had appealed to Fisher for help. It wanted to issue $80 million in stamp scrip to finance a public works project. Fisher sent me to Washington to lobby for a special permit. I talked to quite a few of the New Dealers, including the Secretaries of the Interior and Labor. None had the vaguest idea of what I was talking about. To them the profit system, speculation, overproduction, and faulty distribution were the main causes of the Depression. In principle, they were opposed to everything that might detract from their plans of establishing a planned, socialist economy. Finally, I landed at the U.S. Treasury. Mr. Woodin, the Secretary, was ill.

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Dean Acheson, who acted on his behalf, referred me to his economic adviser, Professor Oliver Sprague (Harvard). Whatever Sprague decided would be all right with Acheson. Sprague took time to study the proposal. The next day he decided: there was no objection to such a limited issue of stamp scrip, but this could start an avalanche. What we were evidently striving at was some sort of monetary reform, and he could not be party to that. This put an end to stamp scrip.

Stable Money

A year had passed. Would my work for Fisher continue? Until now I had worked without a salary. Fisher paid my expenses—the travels between New York and New Haven, a trip to Chicago to speak on stamp scrip, and extended stays in Washington, where I stayed at the old Cosmos Club. Now, Fisher asked, would I be interested in doing the research on a book on the history of the idea of stable money? He would pay me a modest salary. So for the next 10 months I had a place in the economics section of the New York Public Library at Fifth Avenue and 42nd Street. After a year, *Stable Money: A History of the Movement* was published. Fisher generously put my name on its title page—" . . . assisted by . . . ."

Fisher dedicated this book to President Roosevelt, a fact that was often misinterpreted to mean that he was a supporter of the New Deal. Nothing could be further from the truth. Fisher fought the New Deal—on his speaking tours, in his weekly newspaper column (a service of his Index Number Institute), in numerous articles and several books. This dedication was to recognize Roosevelt's contribution to the concept of a stable dollar. His message to the London Economic Conference in the summer of 1933 stated unequivocally, "We hope to maintain a dollar of the same purchasing and debt-paying power which we hope to attain in the near future."

Roosevelt had cited from the numerous letters with which Fisher wanted to "educate" Roosevelt on the subject of money. This dedication was an attempt to induce Roosevelt to pay more attention to monetary issues. The "Committee for the Nation"—a businessmen's organization that fought Roosevelt's Marxist economic measures—distributed several thousand copies of *Stable Money* to leading businessmen to fortify them in their own battles against such New Deal economic stupidities as the National Recovery Act (NRA) and the Agricultural Adjustment Act (AAA).

The book finished, Fisher asked me to participate in some of the deliberations of the Committee for the Nation. He sent me to Washington to work with Congressman Jerry Voorhis (California) on a bill

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to stabilize the dollar, and for talks with economists at the Federal Reserve Board, the Department of Agriculture, the Treasury, and other agencies. I read and reviewed books and articles for him, accompanied him on speaking trips, and prepared memoranda on topical issues as bases for his letters to Roosevelt. It was a specialty of his to take on opponents of his ideas, particularly when they had expressed themselves in print. He knew he would not be able to change their minds. "But," he often remarked, "we can spike their guns. They will no longer have the same power of conviction."

Sometimes an exchange of letters ensued. When I had prepared his letters, he answered requests for a meeting by sending me. Thus I spent many hours with James Farrel, the grand old man of U.S. Steel, whom J. P. Morgan had hand-picked, as he told me. He had formed the "World Trade Council" in an effort to combat American protectionism.

Another correspondent, Orlando Weber, head of Allied Chemicals, tried very hard to convince Fisher through me of the virtues of Hitler's "autarkism." He was one of the strangest geniuses I ever met. He had started as a bicycle racer, changed over to automobile repair, finally worked for one of the 67 chemical companies that he ultimately combined. He was a strong-willed man. He so much wanted a daughter. When his wife bore him a son, he insisted on having him brought up as a girl. Some nine or 10 years later, a daughter was born, upon whom he then lavished all his attention, practically forgetting the son, who became a dancer—in women's dresses. My brother, who had met this unfortunate man, told me this story.

With Fisher's introductions I interviewed central bankers, finance ministers, and leading economists of most European countries in 1935 and 1936. My reports and newspaper articles on these travels paid for them. In 1937 certain American silver interests asked Fisher to endorse their plan to monetize silver in Cuba. He sent me there, together with Robert Hemphill. There was no endorsement.

I spent many weeks in the spacious offices in the basement of 460 Prospect Street, facing the beautiful garden surrounding Fisher's large house. Often I assisted Fisher in the calculation of the weekly wholesale price index of the Index Number Institute, or helped prepare an article for his column.

Healthful Living

In early 1936, Fisher "lent" me to his good old friend Dr. John Harvey Kellogg, whom he had met after a serious illness around the

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turn of the century. Fisher suffered from "open" tuberculosis, and had gone to Colorado Springs, hoping against hope to get well. As he was lying there, he told me, he decided that if this was the end he might as well die in harness. So he started to work in a race with death, trying to accomplish as much as possible in the time still left to him, and he kept working at that speed all his life, a fact that accounted for his extraordinary productivity.

But to come back to Dr. Kellogg. He had made Fisher "health conscious" by introducing him to his dietary notions and giving him the benefit of his unusual experiences as a surgeon. (He told me he had performed some 22,000 major operations.) Dr. Kellogg established the first sanatorium in Mexico—the 4,000-bed Battle Creek Sanatorium—and ran the Battle Creek Food Company. Near Miami, Florida, where I saw him, he had a gorgeous health home with a tropical garden.

He told me how he got it. He had gone to Florida in the early 1920s to seek solace for his poor eyesight by walking in the hot sand and living off tropical fruit. He was greatly helped, and wrote enthusiastic articles, praising Florida as the ideal American resort. One day he was called to the home of Mr. Wright, one of the inventors of the famous airplane motor. The beauty of the place was overwhelming. What would he do with it if he owned it, Mr. Wright asked. Kellogg told him what he could accomplish for the sick. "Come back next week," Wright said. "I'll draw up an agreement." "I've never committed myself to a deal without knowing the terms," Kellogg replied. "The only way you can have the place," Wright said, "is on my terms." When Kellogg came back, there was the agreement. It specified practically in his own words everything Kellogg had said he would do. The price of the property: one U.S. dollar. In case of non-compliance with the specified conditions, it would revert to its present owner.

I tried to interest Kellogg in a health study Fisher and I had concocted: to find out whether, and to what extent, personal habits influenced longevity. It was an outgrowth of the idea underlying the successful operation of the Life Extension Institute that Fisher had founded some 20 years earlier with ex-President Taft and a New York builder. The Institute operated by having a string of associated physicians carry out periodic health examinations of life insurance holders. The life insurance companies paid for these examinations. Actuarial experience showed that premium holders who underwent regular medical examinations lived longer. We hoped to repeat this result with a "Personal Habit Questionnaire," also to be distributed by life insurance companies.

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The insurance companies, however, rejected our offer. Dr. Kellogg explained why: "Look at me," he said. "I am overweight; I have only one lung and one kidney; my eyesight is poor; and I have to use a hearing aid. I'm 89. Yes, I am a vegetarian and an advocate of 'internal cleanliness.' I have survived because I come from a long-lived family. My grandmother lived to be 97. If you ask but this one question: How old were your grandparents? That is all you need to know. Habits can shorten or extend life by some 10 years." "You are foolish," he also said, "you and Irving Fisher, trying to help humanity by preaching economics. I help people individually. That makes sense, and they are grateful." He even offered to pay for my study of medicine. In 1941, as the war broke out, he sold his Battle Creek place to the U.S. Army, and immediately planned to open another sanatorium with the money. His secretary told me that after a brief illness he was called to his bedside to listen to one of his often-repeated jokes, which made him laugh more than anyone else. So he died, laughing—at 93.

While working on *Stable Money,* Fisher wanted to know how I lived. As the author of the bestseller *How to Live,* he felt he had a legitimate right to know. I told him I was a strict vegetarian. "Without meat your body won't get enough iron," he said, and insisted that I have my blood analyzed at the Life Extension Institute. My iron count was one of the best on record.

Fisher paid much attention to his own diet. His favorites were artichoke bottoms, brussels sprouts, and cantaloupe with vanilla ice cream. He used neither coffee nor tea. Alcohol in any form was taboo; he was one of the leading supporters of prohibition. But he was tolerant of the habits of others. Actually he tried to apply to himself the knowledge gained by a Chicago experiment with the "Self-Selection of Diet by Children," which proved over a 10-year period that children—from less than one year to age 12—intuitively knew what to choose from a wide selection of natural foods offered them at every meal. They had the best bone development ever registered in a group of Chicago children.

He told me that he once wanted to find out whether there was any relationship between diet and endurance. He asked the athletes who happened to train at the Yale University Gym to submit to a simple test: Just stand and hold your arms horizontally, and let's see who can do it longest. The wrestlers and the football stars scoffed at the idea; they were sure to win. But they were the first to give up. The one who lasted the longest was an Asian who, it turned out, was too poor to be able to afford meat. The more meat one ate, the shorter his endurance.

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Fisher really took care of his body. When I was at "460," we played before lunch in practically all weathers with a heavy medicine ball on the court behind the house. He was also massaged regularly.

Family Life and Work Habits

When I worked at "460," I was considered a member of the family. Mrs. Fisher, a tall, beautiful, white-haired lady with lovely black eyes, was a most gracious hostess, who took an intense interest in her husband's work. Whatever he wrote for the general public he first submitted to her scrutiny, and he rewrote it until it was clear to her what he meant. Thus, I think he rewrote the introduction to *100% Money* over a dozen times until she was satisfied. Wherever he was—and he spent at least one-third of his time away from home—he wrote her daily and talked to her on the telephone. And at home, after dinner she generally read to him, for she wanted him to share her interest in literature. It was with her that I first discussed the question of a book in honor of Fisher's 70th birthday. With her encouragement I approached Wilford L. King of New York University, a staunch supporter of stable money. He referred me to Arthur D. Gayes of Columbia University. *The Lessons of Monetary Experience* was published in 1937, "on time." In a personal note, Fisher wrote me that "it means more to me than any academic honors."

I have referred to Fisher's working speed. Actually it was his intensity, his power to concentrate on the subject at hand. Once, travelling with him by train—air travel was the exception in those days—I turned to ask him something. It took some time before he woke up to answer. "Don't ever interrupt me again like that," he said sternly. "My mind works at the speed of a fast train. I can't stop it easily." In 1936, on a Saturday afternoon, I was alone in the office. Outside a tornado blew; it cost more than 400 lives in New England. I ran upstairs to call Fisher's attention to it. Again he snarled at me. The house could have come down; he would not have noticed. I was once with him on the first fast train from Nebraska to Kansas City. The tracks were satisfactory for low speeds. We travelled fast, and the cars were shaking so badly one could not even read a newspaper. Fisher, immersed in his work, sat there as though he was riding on air.

An Inventive Genius

Fisher's inventive mind was not limited to economic problems or matters of health and hygiene. His invention of the visible index made him a rich man. He told me that after he had gotten his patent

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he reasoned that if he sold it he could expect no more than $25,000. So he borrowed $35,000 to manufacture and put it on the market. He knew it was superior to any competing product. Soon Remington Rand, his competitor, bought him out for $1 million; and made him a director of the company.

But his mind was also open to the basic inventions of others. Thus he helped get Sonotone-Bone Conduction Hearing Aids introduced into the United States. He was involved in the development of a dynamic balancing machine, which used for the first time piezo-electric quartz for measuring impact; it became the basis of high-speed balancing. I worked in the shop that built the first such machine, and sold it to the U.S. Navy for balancing naval gyroscopes. Fisher was also involved with the basic patent for heating non-conductive materials by means of high-frequency electricity—now used widely in high-frequency ovens. As a great believer in milk as part of the daily diet, he helped promote the construction of emulsifying milk dispensing equipment. He no longer had enough capital to last through the development stages of these inventions, so he did not make much money with them. I felt he wasted too much effort in these attempts to regain his fortune, and too much time with promoters of often questionable character.

View of the Great Depression

Fisher's optimistic attitude misled the public during the Depression, and caused heavy financial losses to the many who trusted his judgment. From the outset Fisher considered the 1929 stock market crash a necessary adjustment for an overheated market. The economy had suffered as a result of the outflow of capital into the stock market, and compensatory credit expansion by the Federal Reserve at that time was diverted to the stock market. A correction was absolutely necessary. But, Fisher argued, it should not be permitted to turn into deflation, setting in motion a disastrous spiral of falling prices, bankruptcies, and unemployment with their dire social consequences. Fisher insisted that the economy was sound. What was needed was confidence so people would be willing to borrow and the banks willing to lend. He pleaded with President Hoover to reverse his policy of retrenchment; he appealed to the Federal Reserve to resume the open-market operations with which Governor Strong of the New York Federal Reserve Bank had so successfully mastered similar setbacks during the 1920s. He wrote and lectured profusely in a heroic effort in the face of economic disaster to stem the tide of deflation. As a man accustomed to act in accordance with

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his convictions, he bought additional stock when he should have sold, hoping to set an example.

It was small comfort to him to see his "debt-deflation theory of great depressions" (in *Booms and Depressions*) confirmed. In fact, the effects of the October 1987 stock market crash on the economy were prevented by exactly the measures that he had advocated in 1929–30.

Before my work with him had ended, I implored Fisher to begin summarizing his economic teachings, to write a comprehensive volume on how a national economy should operate, including the part to be played by government and especially the tax system (see his *Constructive Income Taxation*). He said he still had too many other books to write. But he had only five more years to live.

The Irving Fisher Society

Fisher's major economic teachings have stood the test of time. His practical proposals for implementing these teachings have largely been ignored due, as I see it, to the fatal misapprehensions of Marxist-socialist economic ideology. Now that so-called "real socialism" has so abysmally failed, Irving Fisher's day may yet come. With leading monetary economists of Germany, I have formed the Irving Fisher Society, in the hope of keeping his spirit alive.

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A Solution for the Tenure Problem

Julian L. Simon

Voluntary exchange is perhaps the central element in the economist's thinking. In that spirit, a scheme is offered here for easing the universities' problem of tenure held by faculty members whose productivity is relatively low, by having such professors "voluntarily" receive less money than otherwise—that is, by self-selection.

I will not suggest complete abolition of tenure because it is not a likely alternative,[1] as well as because complete abolition may result in increased incentive for non-tenured incumbents to oppose the hiring of talented newcomers (see Carmichael 1988).

Before considering the scheme, however, let us note that even with the tenure system in its present form there exists an immediate partial remedy to the "tenure problem": universities can simply freeze the salary of non-productive tenured professors.[2] Such a policy would not immediately damage hiring decisions through the mechanism that Carmichael describes, because it would not immediately affect the number of slots to be filled. And even if there would be some later effect by way of non-productive professors being caused to leave, the mechanism that Carmichael discusses would operate more weakly than if tenure were taken away. If it is perceived by non-productive professors that this policy merely brings individuals' salaries more into line with what the open market would offer, there would be no reason for them to see themselves as benefiting from hiring only unpromising newcomers. But this remedy seems unlikely to be adopted.

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The author is Professor of Business Administration at the University of Maryland.

[1]British public universities abolished tenure in 1988 (*Science*, vol. 241, 5 August 1988, p. 652).

[2]Apparently a university cannot legally or ethically *reduce* the salary of a tenured person because it is tantamount to taking away the tenure.

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The Plan

Under the suggested plan, each faculty member tenured at the time of initiation of the plan would be offered two options. *Option 1:* retain tenure, give up the franchise to vote on new hires, and expect (depending on university policy) either zero salary increases, an inflation adjustment, or some modest fixed percentage increase each year. *Option 2:* forswear tenure and accept a rolling, fixed-term contract (RFC) for perhaps 8, 10, or 12 years.

Other details could include the following: (1) the same choice would be offered to a faculty member when newly offered tenure; (2) at any future time, a tenured faculty member could join the RFC track at a negotiated salary; and (3) renegotiation of a tenured professor's salary could take place upon receipt of an outside offer or a threat to quit for other reasons, just as at present.

Each person's situation would be chosen voluntarily; no faculty member would be required to give up tenure. The scheme does lead to lower salaries for tenured persons than under the present system, and those persons therefore would not choose either of the options in comparison to their *present* situations. But such an imposed change in market conditions is not at all inconsistent with the notion of voluntary choice in this context, or with existing tenure contracts. And the change is no more inequitable than any other market alteration that moves toward a better match of price paid and market price.

The scheme has two beneficial results from the point of view of the university. First, the salary bill for presently tenured nonproductive faculty members would be reduced. Second, hiring decisions would be made by those faculty members who have less to fear on average from new hires than would the average of all presently tenured faculty in the absence of tenure, because only the more productive professors would opt for the RFC contract.

Additionally, one would expect those who choose RFC to have more to gain from the presence of talented newcomers than those who do not choose RFC. Hence this scheme would lead to higher-caliber hiring than a non-tenure system that would include all presently tenured faculty members.

A Few Details

A university could limit the voting franchise on hiring decisions either to RFCers or to *all* non-tenured professors. The advantage of the former is that the selectors would be older than pre-tenure faculty

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members, and therefore relatively safer from competition with the new hires.

A person who chooses tenure could always opt for switching to an RFC. But the person would then have to negotiate for salary in the new status. A person also would be able to negotiate for a switch to tenure, but of course the person would not be guaranteed acceptance or that his or her salary would not be reduced at that time.

It is the nature of the human animal that all faculty members will believe that they are valuable enough to be in the class of RFCers. But some (the author, for one) would opt for tenure out of fear of a future vagary of "unsound assessment" and "bad judgment" on the part of their colleagues leading to non-renewal of their contracts.

Upon receipt of an outside offer, a tenured person could seek to have his or her salary renegotiated, just as at present.

Discussion

One cannot be sure without some kind of empirical test that the scheme proposed here would lead to higher-quality hires than does the existing tenure system.[3] But the scheme clearly promises a different structure of costs and benefits for the faculty who would vote under this scheme than under the existing tenure scheme, mainly because the composition of the voting faculty would change, but also (in the other direction) because the perceived costs to the voting faculty of higher-quality hires would be increased by the voters no longer having tenure (the Carmichael effect).

Lest the present scheme seem "indecent" or an impossibly radical break with present practice, one might notice that two-track schemes—one track for the bulk of faculty, and the other track for "teachers" only—have been adopted at such respected institutions as Hebrew University.

Like many other schemes whose economic logic is sound, this one is not likely to be adopted quickly if at all.[4] The reason for non-adoption in the present case will be some combination of custom, governance being in the hands of professors, and lack of courage on

[3]A test using hypothetical questions has obvious but not irremediable difficulties. Projective questions could be effective.

[4]The volunteer scheme for handling airline oversales is an example. Not only did the scheme make theoretical sense, but there was empirical evidence for it prior to adoption (Simon and Visvabharathy 1977). But 12 years were required even for an inexpensive trial, and that only came about because of the unlikely happenstance that an economist became the bureaucratic decisionmaker as head of the CAB. The title of my 1968 article proposing that scheme is relevant here. I explained that the scheme was only *almost* practical because of the inevitable difficulty in getting it adopted.

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the part of administrators. If funds were allocated to departments only in total, and departments then had to allocate strictly within that total, there would be greater pressure to reduce some salaries, and hence greater pressure to adopt this scheme.

Two other schemes that might use self-selection and the auction mechanism to achieve improved market matches in an academic setting are as follows. First, in settings where faculty members teach two different courses, the department can allocate courses to be taught by faculty members by ranking the courses by expected enrollment, and then allow professors to choose a second course in descending order of enrollment of the first course taught. This scheme would give professors an incentive to teach larger courses. Second, offer full professors a course-load reduction of 50 percent in return for giving up 25 percent of their salary. This squares with the idea that half of one's salary pays for research and half for teaching. The give-up would then enable the department to hire a young professor (at about half the full professor's salary level) and hence the same number of courses could be taught as before with no increase in total salary paid and with an increase in total research faculty.[5]

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[5]This scheme is spelled out in detail in Simon (1991).

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BOOK REVIEWS

The Political Economy of Soviet Socialism: The Formative Years, 1918–1928
Peter J. Boettke
Boston/Dordrecht/London: Kluwer Academic Publishers, 1990, 246 pp.

This scholarly book, which represents the fruit of the author's doctoral dissertation, raises once more an old controversy about the "correct" interpretation of the first decade of Soviet economic history. Put in its simplest terms, the controversy is about the relative role to be accorded to Marxist-Leninist ideology in explaining the government policies that were adopted during the period of War Communism (1918–1921) and the New Economic Policy or NEP (1921–1928). The author accords the decisive role to ideology and further maintains that Soviet economic history as a whole—the meaning of the Soviet experiment—has been fundamentally misunderstood. In building his case, the author contributes to the debate by bringing to bear the insights of Austrian political economy, most notably those of Ludwig von Mises and Friedrich Hayek.

Following an introductory chapter that lays out his basic theses and methodological approaches, the author devotes Chapter 2 to delineating his protagonist—"The Standard View." Briefly put, this view, according to the author, takes the position that Soviet central planning began with Stalin's collectivization of agriculture and the Five-Year Plans, rather than with the advent of War Communism. This conclusion arises from the "standard" view that the utopian policies of War Communism can be explained primarily as responses by a relatively weak government to the exigencies of the Civil War. Given this approach, the policies of the NEP are best seen as a departure designed to revive the economy and resolve the political crisis that followed a military victory. With an industrializing mentality and a restored economy, the Marxist-oriented Bolsheviks then collectivized agriculture and adopted a system of socialist central planning, so as to achieve their goals and maintain their political control. In contrast, Boettke argues that Soviet socialism was launched in 1918 as a deliberate attempt by the Bolsheviks to eliminate the market and private property in accordance with the Marxian recipe for achieving the goals of Communism. More broadly, Boettke maintains that the "standard view" does not give sufficient weight to the influence of Marxism as a system of thought, and that in explaining the failure of the Soviet experience with central planning, the literature does not give sufficient

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weight to the economic coordination problem that any economy must face, an emphasis of Austrian economics.

In Chapter 3, the author seeks to prove that the period of War Communism represents a conscious attempt to carry out the Marxist ideal of comprehensive central planning and that its failure was the inevitable result of that ideal system's inability to solve the economic coordination problem. To buttress his case that the attempted leap to Marxian utopia was deliberate, Boettke quotes extensively from the writings of Marx, who pointed the way, and from Lenin, his faithful disciple. Its spectacular failure is then explained in terms of Mises' argument regarding the impossibility of rational economic calculations under socialism. Boettke almost seems to have forgotten that the relatively weak Bolshevik government was engaged in a civil war as it attempted to maintain political power and to survive in a hostile international climate.

Chapter 4 is devoted to an analysis of the political economy of the NEP. Following a review of the events of that period, the author sets forth the debates in the literature over how to interpret it. Was the NEP a retreat from Communist policies, or was it War Communism that, so to speak, had gotten ahead of itself? What explains the failure of the NEP? Boettke argues that Lenin's view, which attributes the problems with NEP to a lack of ability and political maturity (culture) of the Bolsheviks, reflects a fundamental misunderstanding. Lenin and his followers failed to grasp the idea that government interventionism, as embodied in the NEP, runs afoul of the knowledge problem inherent in all economic activity. Moreover, they did not appreciate the incompatibility of political authoritarianism with freedom of economic activity manifested through markets and prices. Moving to consider the current reforms, Boettke maintains that Gorbachev and a chief economic advisor, Aganbegyan, also fall prey to these misunderstandings when they hold up the NEP as a model for restructuring the Soviet economy.

Chapter 5 deals with the political economy of the so-called "Great Industrialization Debate" that took place in the midst of the NEP. The author first sets forth the ideological background for the debates, focusing on Lenin's expressed legacy of an "ambiguity and despair toward socialist construction" that stemmed from the unhappy results of six years of trying to implement socialism in practice. After a brief sketch of the economic situation during the NEP, the author then reviews the positions of the major protagonists in the debate regarding the tempo and strategy of economic development, granting that all sides agreed that industrialization was the goal. Along the way, the author lashes out at the "usual interpretations" of these debates and of the ultimate triumph of Stalinism. Essentially, Boettke's argument is that those early debates over economic development strategy, as with modern arguments over the role of government interventionism in the process, do not really come to grips with the Austrian challenge to economic planning.

Finally, in a brief concluding chapter the author draws some broader messages from his interpretation of the Soviet experience. In short, it

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demonstrates vividly and tragically the economic and political folly of attempts to improve the human lot through social engineering involving extensive government intervention in the economy.

In the reviewer's opinion, Boettke to a considerable degree has created straw men, i.e., the "standard view" and the "usual interpretation" of Soviet economic history. In fact, there are a variety of views, many of which are eclectic. These approaches generally take the position that complex historical events, such as War Communism, are best explained by a complex of interacting factors, including the ideologies of the political leadership. The author's contribution is to bring the powerful insights of Austrian economics, most notably those of Mises and Hayek, to bear on the interpretation and explanation of the failure of Soviet-type political and economic systems to meet the aspirations of their peoples. That spectacular failure does indeed show that Mises was right about the dismal fate that awaits societies that attempt to replace markets and private property with central planning and state property.

Gertrude E. Schroeder
University of Virginia

The New Art of Central Banking
M. L. Burstein
New York: New York University Press, 1991, 244 pp.

Rarely have I read a book on monetary theory and macroeconomics with such pleasure and delight. Meyer Louis Burstein is one of the most provocative monetary economists of our era, and *The New Art of Central Banking* is his best work to date. I recommend this book strongly to all those who are looking for something different, and who see economics as an art, not merely a science.

Building on an earlier essay, "Beyond the Banking Principle," Burstein considers a financially innovated world where bank assets are liquid. Extrapolating from current trends, loans are funded by securities rather than deposits. Banks as we know them no longer exist. Payment and account bookkeeping services are separate from capital markets. Exchange media bear interest, and the unit of account is a tabular standard.

Most modern theories of free banking (e.g., Selgin, White), in contrast, provide the same models for 20th-century free banking as for 18th-and 19th-century free banking. One reads these works without knowing which century is being considered. Furthermore, these models of free banking do not arise through financial innovation, but instead require the unlikely case of a government willing to give up its power over financial institutions and money.

Deregulation prevails in Burstein's world, but not through conscious design. Burstein notes that "spontaneous evolution may leave nothing to regulate." This book provides an important model for advocates of

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deregulation who do not trust the government to cede power. Financial innovation may succeed where political action fails.

Burstein also emphasizes the institution-bound nature of Keynesian economics. In a financially innovated world, Keynes is no longer applicable. Interest on money means that the LM curve can no longer be located. The IS–LM diagram loses meaning, both as a guide to policy and as an economic portrait. The demand for liquidity does not influence real rates of return, as current moneys are no longer needed to be liquid. Say's Law rules. Open market operations have no effects. Money does not differ from return-bearing assets, and swapping the two is simply a wash. Nor is there seignorage. The central bank is simply swapping one kind of paper for another and trading on spreads. Burstein's early influences were Clower and Keynes; now he is closer to Wallace, Black, and Fama.[1]

Burstein also presents a market-oriented plan for European currency reform, resembling Roland Vaubel's "parallel standard." European currencies should compete, not only against each other, but also against an ECU basket. Many other topics are considered in the book as well. Scattered throughout are instructive comments on monetary history, history of thought, and monetary "problems"—for example, is a community wealthier on net if asset prices rise?

Burstein does not write like an ordinary economist. His books have interjections, conjectures, puns, codas, plots, subplots, and distractions. Unexplained references abound, as they do in T. S. Eliot poems. The reader must put many of the pieces together. Some readers will find this annoying, others delightful. *The New Art of Central Banking,* however, is the most readable of Burstein's books. (His 1986 book *Modern Monetary Theory* is virtually atonal.)

Burstein's style and world-view are well illustrated by the following quotation from Chapter 4 (p. 97):

> The paradise of the demonetized giro can be confused with the inferno of barter exchange. Of course, barter exchange is excruciatingly constrained by its double-coincidence constraint: classical monetary exchange is much more fruitful than barter. But computerized direct-debit schemae, eliminating intermediate substances (such as coins crossing palms), do not entail barter. They simply cut out a costly step in the trading process.
>
> The innovated clearing network is operated by data-processing specialists who do not give or receive credit: the famous hybrid role of the banking system—operation of the clearing network with counters ("deposits") it supplies and which in turn are residues of its lending—is abandoned. Banks of issue are no more. And most bankers will welcome the end of their chequery role: it is a low-margin, boring business now that "interest on money" has destroyed the huge mass of zero-interest, or sub-market-rate,

[1]Those with a law and economics background may also recognize Burstein's name. Approximately 30 years ago, he wrote the seminal articles on tying and full-line forcing. See his 1988 collection of essays *Studies in Banking Theory, Financial History, and Vertical Control.*

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> deposits that once backed the clearing system. All pretext of *regulation* of banks is dismissed.
>
> There are plangent implications for the theory of money and finance. Market yields are determined invariantly against whatever remains of monetary phenomena. Concomitant adoption of [a tabular] standard, explained in Ch. 2, locks in this result. Prof. Knight's Cruosnia plant becomes a quite-plausible generalization of praxis instead of a problematically illuminating phantasy. And the "Wicksell business" crumbles: only real (often implicit) interest rates remain, and are explained by theories of real economic action. Classical economists believed that economics should turn out this way.

Burstein's work reminds one of the Beethoven performances of Toscanini and Schnabel. Not all the t's are crossed, and not all the i's are dotted. But after listening (reading), one never approaches other performances (books) in quite the same way.

Tyler Cowen
George Mason University

The Rationale of Central Banking and the Free Banking Alternative
Vera C. Lutz
Indianapolis: Liberty Press, 1990, 214 pp.

The Rationale of Central Banking was written as a Ph.D. dissertation under Friedrich Hayek at the London School of Economics and first published in 1936. The book covers the development of central banking and the controversies surrounding it in Britain, France, Germany, and the United States. Vera Smith later married the German economist Friedrich Lutz, and the couple moved to the United States just before the outbreak of the Second World War. After the war they settled in Switzerland, and Vera Smith Lutz died there in 1976. *The Rationale of Central Banking* challenged the prevailing view that took the necessity of central banking for granted, and its influence was therefore relatively limited until that conventional wisdom itself began to crack. Economists slowly realized that many of the issues that arise once one ceases to take central banking for granted had already been dealt with by Vera Smith, and her book had a major influence shaping the emerging body of modern free-banking thought in the late 1970s and afterwards. The book has been long out-of-print and difficult to obtain, so the new edition by Liberty classics is very timely and should encourage more people to read it. The new edition has a slightly modified (and, in my opinion, more appropriate) title—*The Rationale of Central Banking and the Free Banking Alternative*—but the text is basically the same. The new version also includes an introduction by Leland Yeager that is a model of clarity, and not only summarizes Vera Smith's life and career, but also provides a concise perspective on the book itself and its place in free-banking thought.

Smith's main theme was a simple one—"A central bank is not a natural product of banking development. It is imposed from outside or comes

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into being as the result of Government favours" (p. 169). As she wrote several pages earlier, most early central banks "were founded for political reasons connected with the exigencies of State finance, and no economic reason for allowing or disallowing free entry into the note-issuing trade was, or could have been, given at the time" (p. 167). These monopolies became the focus of intense controversy in various countries in the 19th century, but the power of entrenched interests and the influence of dubious economics combined to settle the controversy in favor of monopoly and control, and "thereafter the superiority of central banking over the alternative system became a dogma which . . . was accepted without question or comment in all the later foundations of central banks" (pp. 167–68). Once they were firmly established, these monopolies then acquired the characteristics of our modern central banks. In particular, they came to hold the bulk of the country's specie reserves, and their notes and deposits became a key element in the reserves of the commercial banks. These two factors gave the central bank a unique position of leverage over the rest of the banking system, and the question of how it should use that leverage—the question of central bank policy—dominated the agenda for many decades. Generations of monetary economists consequently wasted their energies on the intractable and insolvable problem of what the monopolist should *do*, and the prior question of whether there should *be* a monopolist in the first place was dismissed out of hand. The central bank's room for maneuver was initially limited by the obligation to redeem its notes and deposits on demand for specie, but this constraint on its freedom to do as it wished (and incidentally, to supply the government with funds) was eventually suppressed by the political authorities so they could squeeze more resources out of the banking system. Convertible money thus gave way to fiat money, and relatively stable prices gave way to inflation.

Vera Smith had the disadvantage of supporting free banking when free banking was widely regarded, to the extent that it was regarded at all, as an anachronistic preserve of the lunatic fringe. It is not surprising, therefore, that she thought that "it is unlikely that the choice [between free and central banking] can ever again become a practical one. To the vast majority of people government interference in matters of banking has become so much an integral part of the accepted institutions that to suggest its abandonment is to invite ridicule. . . . As a matter of practical policy the tendencies are all in the direction of increased centralisation" (p. 195). That that is no longer so, and that the intellectual debate has been more or less won, in the United States at least, is due in no small measure to *The Rationale of Central Banking* and the belated influence it has had. It is a shame Vera Smith did not live to see it.

Kevin Dowd
University of Nottingham

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Unfathomed Knowledge, Unmeasured Wealth: On Universities and the Wealth of Nations
William Warren Bartley III
La Salle, Ill.: Open Court, 1990, 315 pp.

"Economics and epistemology are fundamentally interrelated, since both are concerned with increase of wealth and governed by many of the same principles. Indeed, the theory of knowledge is a *branch* of economics." So says William Bartley in the Introduction to *Unfathomed Knowledge, Unmeasured Wealth.* The idea thus expressed has rich implications, explanatory power, and problem-solving potential.

Bartley was a prominent American philosopher who studied with Sir Karl Popper at the London School of Economics as a graduate student. He later became thoroughly familiar with the works of Friedrich A. Hayek, to whom this volume is dedicated. Except for their interest in free inquiry, Popperians have not been particularly identified with market liberal ideas. Conversely, market liberals have not been especially aware of the implications for them of Popper's work. Bartley's own previous work has rarely been political, but this book is a powerful defense of liberal ideas. It draws its strength from Bartley's insights into and creative applications of the philosophical tradition started by Popper, the political and economic tradition begun by Hayek, and from the complex and exciting interplay of these two traditions.

The notion of unfathomability—of never appreciating the full implications of our theories or the full consequences of our actions—is deeply ingrained in the works of both of Bartley's teachers and predecessors. In Part I of *Unfathomed Knowledge, Unmeasured Wealth,* Bartley introduces and explains what he means by unfathomable knowledge. "There is a radical sense in which the content of existing theories is *inaccessible* in principle even to the creators of the theories and to other experts." This idea from Popper is closely related to Hayek's theses about the unintended and unpredictable consequences of our actions. Bartley introduces us to the logical underpinnings of this concept by first recounting Popper's example of the logical relationship between Einstein's and Newton's theories. He then develops and illustrates the idea with a case study involving both the origin and spread of AIDS and AIDS treatments.

The origin of AIDS may well be attributable to "unintended consequences of nightmarish proportions." Research indicates that the "AIDS epidemic, and the disease itself, may have been created by the 13 year long mass vaccination campaign" conducted by the World Health Organization in its attempt to eradicate smallpox. (New evidence supporting this theory became available in November 1990 with the news that interference with human immune systems caused by other vaccines also correlates highly with HIV-positive results.) On the other hand, AIDS treatment has also benefited from the unintended consequences of developments in seemingly unrelated medical theories. Two of the more effective AIDS treatments were developed from chemical compounds

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invented before the discovery of AIDS. As a logical matter, then, the informative content and implications of the medical theories used in constructing those compounds—which include their value as AIDS treatments—(1) were not part of the subjective intention of their inventors and (2) were *"unimaginable,* and therefore unintendable in terms of the information available."

For Bartley, as for Popper, knowledge, though the product of individuals, becomes independent of and beyond the control of individual human knowers. Marx once complained that "our product . . . outgrows our control, crosses our expectations and nullifies our calculations." Bartley responds that this is inevitably so, and not just for discrete physical products: "Our autonomous knowledge products escape our control whether we like it or not."

An epistemologist who understands knowledge in this way sees his task as distinguishing between those traditions and institutions that nurture the growth of knowledge by eliminating error and distortion and those institutions that do the opposite. The epistemologist becomes an ecologist in the sense that Hayek and Adam Smith are ecologists in economics narrowly understood: they identify both what nurtures growth and what retards it.

"To begin to become aware of, and to face, such ecological questions is to begin artificially to construct and to probe possible environments for the advancement of science and learning, to imagine a constitution not only for liberty but for learning." Where better to start than by looking at our universities? In Part II, Bartley applies his proposed economic analysis to university structures, traditions, and institutions. He comes to three conclusions. First, "the institutions on which we rely most for the production of knowledge . . . if viewed from an economic perspective, are not organized in such a way as readily to advance knowledge, and indeed often work against its growth." Second, American universities fall far short of offering a free marketplace in ideas. And third, "the chief institutions of contemporary research—especially those connected with faculty hiring, graduate research and the professions—are late feudal in character. . . . They are primarily concerned not with the production of innovative knowledge, but with the control of entry, the gaining of 'livings,' the placement of vassals, and the controlled production and protection from competition of noninnovative alleged knowledge."

University bashing is a popular spectator sport, as evidenced by the impact of works such as Allan Bloom's *The Closing of the American Mind,* Charles Sykes' *Profscam: Professors and the Demise of Higher Education,* and Russell Jacoby's *The Last Intellectuals.* These are important works and they tell important stories. However, Bartley's thesis about the institutional problems of the university system goes well beyond the analyses offered in these books. Sykes thinks the problem is caused largely by professors seeking their own self-interest in terms of working hours, for instance, while Bloom insists that universities are

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failing to transmit received traditions properly, for reasons which non-trivially include the music students listen to.

Bartley, by contrast, focuses on the philosophical justification offered by several prominent scholars for the status quo in our universities. Bartley illuminates the relationship between the doctrines of Thomas Kuhn, a historian of science whose work has been extremely popular among professional academics since its publication almost 30 years ago, and the non-market status quo existing within universities today.

Bartley thus wants Kuhnianism, at least in the inappropriate normative function it has taken on, to be displaced so that the work of reforming our educational and research institutions in the direction of a competitive market can proceed. It is to this end—the critical examination and refutation of Kuhn's ideas and those of one of his intellectual forebears, Ludwig Wittgenstein—that Bartley turns in Part III.

Part III is a case study that illustrates and expands on themes introduced earlier. It is the story of the reception that the professional philosophy community accorded to Karl Popper's ideas. Chapters 9 through 18 contain new biographical information about Popper, his relationship with Bartley, and his philosophical allies and opponents.

Bartley portrays 20th-century philosophy as having two key, but widely divergent, strands. During the 1930s and 1940s, logical positivists proposed to impose on all human knowledge what they viewed as the character and methods of science itself. Since the sciences were growing by stunning leaps and bounds while other disciplines, especially religion and metaphysics, were not, positivists suggested that all disciplines should be transformed and made to conform to what they and many others believed to be the methods of the natural sciences.

In his later work, Wittgenstein made a move analogous to that of the positivists, maintaining that not only can science claim its own way of gaining knowledge, but each discipline can do the same: "Each discipline or field or 'language game' or 'form of life' is alleged to have its own ungrounded ultimate standards or principles or 'logic,' *embedded in action*, which need not conform to or be reducible to any other standards, and which, again, it is the special task of the philosopher to describe and clarify but to eschew judging or defending."

Wittgenstein's approach, taken up with much success by Kuhn, leads to fundamental and irrecoverable *divisions* in knowledge. For these thinkers, each "language game" or "paradigm" is incommensurable with every other one. This move sunders human learning and knowledge as a shared activity or spontaneous order because we are no longer allowed to comment critically on paradigms other than our own. "We" cannot improve or refute "their" ideas, and vice versa.

Bartley believes that it is precisely this feature of Wittgenstein's thought that so charms our professional academic elites. It makes them immune to criticism except from other registered members of their own elite, whose character they are able to control by the guild-like behavior their institutional structure allows and rewards.

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Popper, however, viewed the origin of competing theories as irrelevant. Instead he emphasized that it is how and whether we can test and refute or criticize competing theories, and thus improve them, that matters. Thus, Popper's ideas call normatively for a common and commonly accessible approach under which all ideas are subjected to searching criticism. He asks urgently for the development of a constitution of learning that upholds and promotes free inquiry. Such institutional arrangements would produce consequences profoundly favorable for the creation of a free and open society.

To summarize, *Unfathomed Knowledge, Unmeasured Wealth* develops three main arguments. Bartley explores and applies the notion of unfathomable knowledge, a notion that is key to understanding the work of Hayek, among others. He examines the ecological and economic structure of American universities as it affects their behavior, character, and teaching and research outcomes. Finally, Bartley provides a history of two major themes of 20th-century philosophical thought and their differing implications for theories of rationality, the growth of knowledge, and a unified, spontaneously ordered free community of critics, scholars, scientists, and intellectuals.

William Warren Bartley III died in February 1990. He was in the midst of preparing biographies of Hayek and Popper and was the general editor of Hayek's *Collected Works*. Bartley's intimate and masterful understanding of Hayek and Popper is fully displayed in *Unfathomed Knowledge, Unmeasured Wealth*. A striking part of Bill's genius lay in his choice of teachers and in his deep understanding and ability to communicate how their ideas solve important and long-standing problems in philosophy, science, and economics that hinder our movement to a free, just, and humane society. His untimely death was a tragedy for liberals and the community of humane scholars in all fields.

Leslie Graves

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New and Recent Books in Economic Theory

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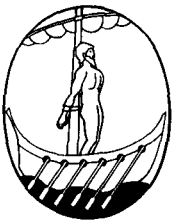
CONSTITUTIONAL POLITICAL ECONOMY



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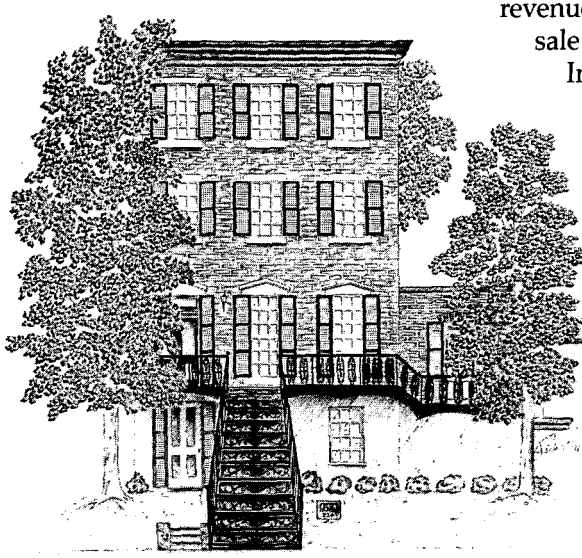

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—Michael Polanyi

The Logic of Liberty
(Chicago: University of Chicago Press,
1951; Midway Reprint, 1980), p. 186.

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